"PATTERN OF CERVICAL CYTOLOGY BY PAP SMEAR IN PATIENTS AGED 20 – 60 YEARS"

Submitted by

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MS

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Under the guidance of

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ABSTRACT

Background : Cervical cancer is the most common cancer of the female genital tract. It is preceeded by intraepithelial histological changes which progress slowly for a decade or so. The unique accessibility of the uterine cervix for direct visual examination and the possibility of cellular and tissue sampling have permitted intensive investigations of premalignant lesions of the cervix. Because of illiteracy and ignorance towards health, majority of them are diagnosed in advanced stages when cure is almost always impossible. However if diagnosed at earlier stage it is one of the highly curable cancer.

Pap smear is an effective method of cervical cancer screening. It is a simple outpatient procedure done without anaesthesia. It also detects various infections and inflammation with characteristic cytological appearances.

The need for this study is to utilize Pap smear as a tool for cytological analysis of cervix, its correlation with various individual parameters, early identification of high risk factors and preinvasive lesions of cervix and hence early diagnosis and treatment of cervical cancer.

Objectives- To assess the incidence of different specified outcomes of Pap smear in attending population and its correlation with age, parity, socioeconomic status, age at marriage, religion, presenting symptoms and clinical impression of cervix.

Methods- This study was conducted in the Department of Obstetrics and Gynaecology at Shri B.M.Patil Medical College Hospital and Research centre, Bijapur. 400 women were screened who belonged to age group of 20 to 60 years during the period from October 2008 to July 2010. Clinical details were noted , thorough general physical and systemic examination was done and PAP smear was

taken. The smears were stained according to modification of Papanicolaou (1942) and reported according to Bethesda System (2001)

Results- 400 women of age 20 to 60 years were studied to know the pattern of cervical cytology by Papanicoloau smear.

Maximum number of women screened were in age group of 30 - 39 years (34.5%). 49.5% were of parity 3 – 5. 95% of women were Hindus. 52.5% of women were from Low socioeconomic class and 54% were illiterate. Most of the Women got married at less than 19 years of age.

Most common presenting complaint was white discharge per vagina (40.25%) followed by menstrual irregularity (18%). 15.75 % of cervix were healthy looking, 23.75% had erosion, 37.75% had hypertrophy.

Cervical cytology was normal in 5.5%, inflammatory in 86.25%, LSIL in 3.25%, HSIL in 3.75% and squamous cell carcinoma in 1.25%.

Maximum number of patients with LSIL were in the age group of 40 – 49 years and HSIL and Squamous cell carcinoma occurred in the age group of 50-60 years.

LSIL and HSIL were found more commonly in parity 3 – 5 (4.04% and 5.55% respectively) whereas malignancy was found more commonly in parity >5 (4.83%). Majority of LSIL, HSIL and malignancy were found in low socioeconomic status i.e 4.28%, 5.23% and 1.9% respectively , in muslim religion i.e. 5% each and in women married before the age of 15 years i.e 5.03%, 6.47% and 2.16% respectively

Majority of LSIL and HSIL were found in patients with white discharge per vaginum 5.6% and 6.2% respectively and irregular PV bleeding i.e 4.2% and 5.5% respectively and Malignancy in patients with white discharge per vaginum i.e in 3.1% patients.

Majority of LSIL, HSIL and malignancy were found in patients with Erosion (7.36%, 3.61% and 3.15% respectively) and Chronic cervicitis (3.3%, 3.96% and 1.32% respectively).

CONCLUSION

The PAP smear is the most simple, safe, practical and cost effective method for early detection of cervical cancer and its precursors and that if the precursors are treated the subsequent development of invasive cancer is eliminated or reduced. Hence efforts must be directed towards education of women regarding cervical cancer and its risk factors in order to promote awareness of malignancy and to motivate them for cytological screening in the future.

KEY WORDS- Cervix, PAP Smear, Screening test

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INTRODUCTION

Cervical cancer is the most common cancer of the female genital tract. It is preceeded by intraepithelial histological changes which progress slowly for a decade or so. The unique accessibility of the uterine cervix for direct visual examination and the possibility of cellular and tissue sampling have permitted intensive investigation of premalignant lesions of the cervix. Because of illiteracy and ignorance towards health, majority of them are diagnosed in advanced stages when cure is almost always impossible. However if diagnosed at earlier stage it is one of the highly curable cancer.

It has been estimated that about half a million women in the world are suffering from carcinoma of cervix.[66] Out of all cervical cancer cases seen in the world, only 14% are in developed countries and about 86% occur in developing countries The dramatic reduction in the incidence of cervical cancer in developed countries is because of widespread use of an effective cytological screening test i.e. Papanicolaou Smear[72] which can identify the premalignant and malignant lesions of the uterine cervix, which cannot be detected or even suspected by history and clinical examination. The various degrees of cervical intraepithelial lesions precede invasive cancer. Once these precursor states have been identified by cytology, further progress of the disease can be prevented by simple therapeutic maneuvers and continued follow up.

Pap smear is an effective method of cervical cancer screening[53]. It is a simple outpatient procedure done without anaesthesia. It also detects various infections and inflammation with characteristic cytological appearances. Early cytological diagnosis

has made significant contribution not only in improving cure rates but also in markedly reducing incidence and mortality of invasive cervical cancer.

The need for this study is to utilize Pap smear as a tool for cytological analysis of cervix, its correlation with various individual parameters, early identification of high risk factors and preinvasive lesions of cervix and hence early diagnosis and treatment of cervical cancer.

AIMS AND OBJECTIVES

To assess the incidence of different specified outcomes of Pap smear in attending population and its correlation with age, parity, socioeconomic status, age at marriage, religion, presenting symptoms and clinical impression of cervix

REVIEW OF LITERATURE

The study of exfoliated cells dates back to the middle of nineteenth century, but the main progress in the field of cytology was achieved within last four decades.

In 1847 Pouchet[45] published his Pouchet's monogram on Ovulation which deals with normal cytological changes in human vaginal smear. It is also the first publication in the field of Gynaecological cytology

Lucke & Klebs[86] in 1867 found malignant cells in smears of ascitic fluid in cases of malignant tumours of ovary

Originally, the vaginal smear technique was employed by Stockard and Papanicolaou in 1917[63] to analyse sex cycle in guinea pig

In 1927 Dierks, on the basis of study of 30 women was the first to show cyclic changes in the vaginal epithelium and in the same year Pacconi published similar findings.

In 1933 Papanicolaou[63] published detailed description of his fundamental observations on the epithelial changes during the menstrual cycle of women. Murray 1938, De Allende and Orias 1947, Litchwitz and Fitussi 1947, Fundel 1950 and others confirmed his observations.

In India, Kishore and Agarwal in 1936 , were the earliest workers to study cytohormonal changes.

The introduction of different staining technique by Shorr (1941) and Papanicolaou (1942)[92] marked a considerable step forward in the development of gynecologic cytology.

Papanicolaou and Traut[63] presented their famous monogram "Diagnosis of uterine cancer by Vaginal smear" in 1943. They examined smears from 3014 women

at the Cornell University Hospital for women and arrived at correct diagnosis in 98.4% of Cervical carcinoma and 90.7% cases of Corpus carcinoma. They detected 179 carcinomas (127 cervix and 52 corpus) which were confirmed histologically.

A most helpful step forward was taken when Ayre introduced his spatula in 1947[4].

In 1948 American Cancer Society recognized its importance for early detection of Genital malignancy and recommended that further cytological laboratories should be set up in order to promote early diagnosis

Achenbach R.R. et al[1] (1951) studied the validity of cervical smear in the diagnosis of carcinoma of cervix. During a period of 3 ½ years, 11, 871 cervical smears from 9,748 patients were examined and a total of 398 cases of malignancy were found.

Wied G.L. et al[98] (1962) studied the cytology of 300 cytologically diagnosed dysplasia cases, histological confirmation was present in 279 cases.

Original PAP fixative was modification of Carnoy's fluid (equal parts of alcohol, acetic acid and chloroform) and fixed the smears within one minute. It was two rapid and over fixation was easy. Way in 1963 used equal parts of ethyl alcohol and ether as fixative successfully, which continues till date[92].

In 1967, Richart[73] proposed the term cervical intraepithelial neoplasia. This has been convincingly established through the work on cytogenetics (Kirkland et al, 1967), microspectrophotometry (Wilbanks et al, 1967) and culture & autoradiography (Richart, 1973)

Around 1960, the study of cytology attained a good momentum in India. In 1960 – 1963 Wahi, Luthra and Mali[52] at S.N.Medical college, Agra: in a mass

screening project studied 4,919 smears from 39,587 women attending Gynecologic OPD; out of these 1.7% showed carcinoma of cervix and 20% showed dysplastic changes. The pick up rate was 1.62/1000. In 1969 they studied Cervical dysplasia and its significance

Padma Rao studied 3,582 cases over 10 years from 1961 to 1972 and detected 56 positive cases i.e 1.5%.

The 'Indian Academy of Cytologists' was established on 5th November 1969, with main objective to encourage various activities in clinical cytology and to standardize terminology.

Chakrawarthy, Poddar and Sarkar[16]studied total of 2,050 patients by cervical smear upto 1973, the incidence of dysplasia was 7.59% with In situ lesions in 0.26%

Tweeddale D.N. et al[95] (1972) studied 12 cases of microinvasive squamous cell cancer of cervix. They reported that the cytologic smears of micronivasive lesions contain greater percentages of non-keratinising and keratinizing cancer cells but fewer parabasal like cells. The histologic pattern of the microinvasive lesion parallels its cytologic counterpart.

Tovell H.M.M. et al[94] (1976) examined Pap smears from 254 patients which showed cervical intraepithelial neoplasia or early invasive carcinoma. The accuracy of cytology in predicting the degree of CIN and early invasive carcinoma was 84.5%.

S. Panda and Mahapatra studied cervical cytology in unhealthy cervices of 510 cases with dysplasia 9.5% and In situ lesions in 1.57% in 1977.

Usha Saraiyya and Mohini Garud screened 7,988 cases in 1981. The incidence of dysplasia was 3.2% and most of cases were of cervical erosion.

In 1982 P. Sharada and Reddy carried out their study mainly in rural areas of Karnool (A.P). they studied 1000 rural women, out of which 4.2% were abnormal smears[77].

In 1986 M.S.Nanavati and Darshan Mehta studied 3.613 cases with 2.8% abnormal smears. The dysplasia was 1.6% and carcinoma of cervix 1.2%.

Lozowski M.S. et al[48] (1982) studied 170 cases with abnormal cervical smears out of which histological correlation was available in 157 cases, accuracy of cylologic reporting was 41% in mild to moderate dysplasia, 29% in severe dysplasia.

Lulla M. and Saraiya U.B.[49] (1983) studied 90 cases of cervical intraepithelial neoplasia. Cytohistological correlation was seen in 74% cases.

Carmichael J.A. et al[13] (1984) reviewed 299 cervical Papanicolaou smears and obtained agreement within 1 degree of deviation from original diagnosis in 237 smears (79.3%).

Machlean A.B. et al[51] (1985) studied 791 patients out of which 18 had invasive squamous cell carcinoma and 289 had cervical intraepithelial neoplasia. Correlation in mild to moderate dysplasia was seen in 30% of cases. Smears showing changes consistent with severe dysplasia or carcinoma in situ were seen in 68% and in invasive carcinoma in 33%.

Parker A and Ueki M.[65] (1986) compared preoperative cervical cytology with subsequent histology in 441 cases. The surgical specimens included total hysterectomies, cone biopsies and colposcopically directed punch biopsies. There was precise correlation in 66% cases. The false negative rate was 11.5% and false positive rate 11.2%.

Sugimori L. et al[90] (1987) examined the cytology of microinvasive squamous cell carcinoma in 53 cases. They reported that the cellular features are characterized

by the presence of tumor cells in sheets, highly increased coarse nuclear chromatin, pleomorphic cancer cells and presence of nucleoli. Cytohistological correlation was present in 42% cases.

Soost H.J. et al[88] (1991) studied 748, 871 cytological smears from 277, 842 women over a ten year period. Positive cytological diagnoses were validated by a subsequent histological examination within 1yr. Predictive value of a negative cytological examination was 99.8%. Predictive value of a positive cytological examination was 73.4% for mild to moderate dysplasia, 90.6% for severe dysplasia/ Ca in situ, 94.5% for diagnosis of microinvasive carcinoma and 95.5% for diagnosis of invasive carcinoma. The cytologic screening had sensitivity of 80% and specificity of 99.4%.

Cantaboni A. et al[12] (1992) compared the cytologic and histologic diagnosis made in a 3 yr period. They studied 4,630 cytologic smears from 1856 patients. Concordance between cytologic and histologic diagnosis was observed in 83.2% cases.

Dibonito L. et al[26] (1993) investigated 1000 women who had cervical smears and tissue sampling obtained during the same colposcopic evaluation. Cytologic diagnosis of CIN I were 96, CIN II were 44, CIN III including carcinoma in situ were 39, invasive carcinoma were 2, atypical cases were 56. Sensitivity was 76.3%, with sensitivity increasing with CIN grade, Specificity was 93%, Positive predictive value was 80.2% and Negative predictive value was 91.3%. False negatives was 8.7% due to sampling errors.

Kashyap V et al[41] (1995) screened, 1,1741 cervical smears over a period of 10 yrs and confirmed diagnosis with biopsy. A total of 1910 cases with dysplasia and 213 cases with malignancy were detected. The exact agreement in diagnosis between cytology and histology of dysplasia cases was found to be 61.9% and in malignancy 90.1%.

Matsuura Y et al[55] (1996) investigated the accuracy rates of cytology in early cervical neoplasia confirmed by conization. The accuracy rates of cytology were 52%.

Murthy N.S. and Mathew A.[59] (1999) studied cytological smears of 1,17, 471 women, out of which 213 had malignant lesions. Malignancy was confirmed histologically in 192 (91%) women of 213 cytologically diagnosed malignant cases.

Mostafa M.G. et al[57] (2000) during a 4 yr period reviewed abnormal cervical smears from 709 patients which were followed by cervical biopsy. The accuracy rate CIN I, CIN II, CIN III, squamous cell carcinoma and Adenocarcinoma was 62%, 40%, 57%, 55%, 66% respectively. The overall accuracy rate was 48% which increased to 56% after review.

Kim Y. et al[42] (2002) studied cervical cytology smears from 18 cases of small cell carcinoma of cervix diagnosed between 1986 and 2001. Most cases showed minimal cytoplasm, finely stippled chromatin, prominent nuclear molding and smearing effect. Cytologic smears diagnosed or suggested 79% of squamous cell carcinoma of cervix before histologic confirmation. The tumor cells were arranged mostly in clusters of varying sizes with no typical architectural pattern. The tumors had very pleomorphic cells and recognizable nucleoli.

EMBRYOLOGY, ANATOMY AND HISTOLOGY OF CERVIX

Uterus and cervix develop form Mullerian ducts (paramesonephric ducts), which appear between 5^{th} and 6^{th} week (10mm crown rump length) of gestation, one on each side in the lateral aspect of mesonephros.

They form as buds of coelomic epithelium at the cranial end of urogential ridge. Each one grows down lateral to the corresponding wolffian duct until it reaches a low level; there it turns inwards and joins its fellow from opposite side. It has 3 parts; cranial vertical, middle horizontal and caudal vertical after crossing Wolffian duct anteriorly. In females, uterus is developed by the fusion of the intermediate horizontal and adjoining caudal vertical part..The fusion begins at 7^{th} - 8^{th} week (22mm crown rump length) but is completed only by 12^{th} week. Cervix is developed from the fused lower vertical parts. The top of uterus is at first flat, the domed fundus being a later post-natal development. Differentiation of the cervix from the body of uterus is recognizable by the 10^{th} week, but cervix is not clearly separated from vagina until 20^{th} week. The lining epithelium and the glands of the uterus and cervix are developed from the coelomic epithelium. Cervical glands are present by 28^{th} week.

At birth the uterus measures 35mm in length. It is disproportionately large because of the stimulus it receives from maternal oestrogen. Within 2 weeks it decreases in size by $1/3^{rd}$ so that its overall length is 23-24 mm, $2/3^{rd}$ of which is cervix. Throughout infancy and childhood there is only slight growth in proportion to physical development and the uterus of girl aged 8-9 years is similar to the newborn baby. During 2 years preceding menarche uterus grows to approach adult size.

The Cervix is lowermost part of the uterus and is divided from its upper part or corpus by a fibromuscular junction which is referred to as Internal os. It extends from the histological internal os and ends at external os which opens into the vagina after perforating the anterior vaginal wall.

It projects through the anterior wall of the Vagina at the vaginal vault, as a result of which half of it projects into the vagina (Vaginal cervix or portio vaginalis) while half is above the vaginal attachment (supravaginal cervix) , approximately of same length. The supravaginal part is surrounded by pelvic fascia except on its posterior surface where it is covered with the peritoneum of the Pouch of Douglas

In Nulligravida it's conical in shape , 2.5 – 3.5 cm in length and 2.5 cm in diameter with circular external os. Pregnancy produces changes in shape and size of the cervix due to its overall increase in size and the eversion of the epithelial contents of the lower endocervical canal. Any injuries sustained at the time of delivery further alters configuration, resulting in characteristic appearance of multiparous cervix, which is larger and more bulbous with transverse slit external os rather than circular. Endocervical canal is a spindle shaped canal, disposed centrally, connects the uterine cavity with the vagina.

Anteriorly the supravaginal portion of the cervix is separated from the bladder by a distinct layer of connective tissue i.e parametrium. The uterine arteries course along the parametria, lateral to the cervix. The ureter runs downwards and forwards within the parametrium at a distance about 2cm away from cervix. Posteriorly the peritoneum forms the rectouterine fold or Pouch of Doughlas.

The cervix is held in position by ligaments, namely the uterosacrals posteriorly, Cardinal ligaments laterally and Pubocervical ligaments anteriorly.

The cervix is composed mainly of fibrous connective tissues, smooth muscle fibres average 10 – 15%. The upper part of cervix is composed mainly of involuntary muscle, many of the fibers being continuous with those in the corpus. The lower half has a thin peripheral layer of muscle (the external cervical muscle) but is otherwise entirely composed of fibrous and collagenous tissues.

Epithelial Lining Of The Cervix

Uterine cervix consists of ectocervix and endocervix.

Ectocervix: It is the vaginal portion of the cervix, which extends inferiorly from the external os to the reflection of the cervical epithelium on to the vaginal fornix. It is lined by non-keratinising stratified squamous epithelium continuous with that of the vagina

The non-keratinising squamous epithelium of ectocervix is composed of four layers :

1. Basal Layer 2. Parabasal Layer 3. Intermediate Layer 4. Superficial Layer

1. **Basal Layer:** It is a single row of immature cells with large nuclei and small amount of cytoplasm. It is the source of epithelial cell regeneration.

2. **Parabasal Layer:** It consists of 2-4 rows of immature cells that have normal mitotic figures and provide the replacement cells for the overlying epithelium.
3. **Intermediate Layer:** It contributes to the majority of epithelial thickness. It includes 4-6 rows of cells with large amount of cytoplasm in a polyhedral shape, separated by an intercellular space. Intercellular bridges where differentiation of glycogen production occurs can be identified with light microscopy.

4. **Superficial Layer:** It has squamous cells, non-keratinised type. It includes 5-8 rows of flattened cells with small uniform nuclei and a cytoplasm filled with glycogen. The nucleus becomes pyknotic and the cells detach from the surface (exfoliation). These cells form the basis for Papanicolaou (Pap) testing.

Endocervix: It is the portion of the cervix from external os to internal osThe mucous membrane lining the endocervical canal is thrown into folds, which consists of anterior and posterior columns from which radiate circumferential folds to give the appeareance of tree trunk and branches, hence the name 'arborvitae'. Histologically the endocervix differs considerably from the endometrium. It is covered by a single layer of tall columnar epithelium with mucus at the top and basal nuclei which, on the top of the folds but not in the crypts and glands, are ciliated.

In cervical smears endocervical cells appear as cells arranged in "Picket fence"; parallel rows of cells or "Honey Comb" pattern; the nuclei are basal with glandular chromatin, cytoplasm is finely vacuolated and faintly basophilic. Beneath this, there are patches cubical 'basal or reserve' cells from which new surface cells are believed to develop and which can undergo squamous metaplasia.

Endocervical glands are simple, tubular & branching glands. The glands which dip into the stroma are of complex racemose type and are lined by secretory columnar epithelium. There is no stroma unlike the corpus and the lining epithelium rests on a thin basement membrane.

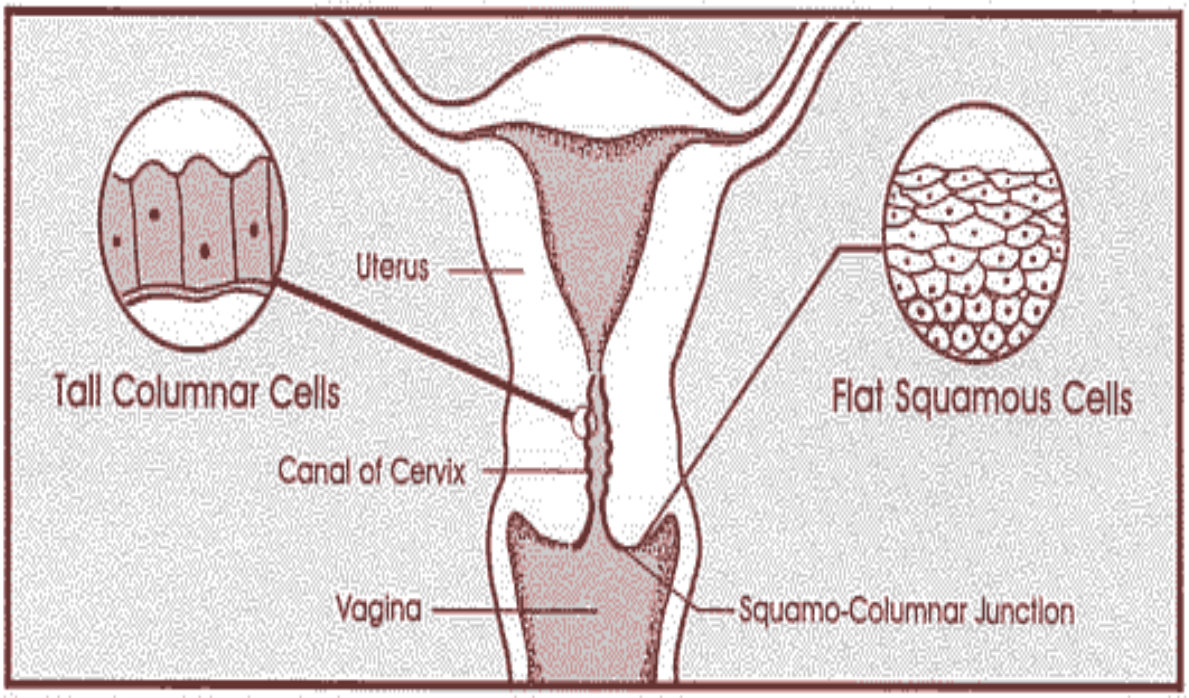


Figure 1 : Epithelial Lining of Cervix and Squamo – Columnar Junction

SQUAMOCLUMNAR JUNCTION (SCJ)

It is the meeting point of columnar epithelium that lines the endocervical canal with squamous epithelium that lines the ectocervix. It is a dynamic point. It moves up and down in relation to hormonal level of oestrogen and hence different phases of life, e.g. puberty, pregnancy and menopause

In the presence of oestrogen, the the vaginal epithelium accumulates glycogen. The Lactobacilli act on glycogen to produce the acid pH (lactic acid) of vagina. This moves the squamo columnar junction donwards.

The metaplasia extends from the original SCJ (now squamosquamous) outside to the newly developed (physiologically active) SCJ (now squamocolumnar) inside. This area is called as TRANSFORMATION ZONE (TZ) or Transitional Zone. It may be 1 – 10 mm width with variable histological features. It consists of endocervical stroma and glands covered by squamous epithelium.

The zone is not static but is in dynamic state. Two mechanisms are involved in the process of replacement of endocervical columnar epithelium by squamous epithelium.

a) By squamous metaplasia of the subcolumnar reserve cells
b) Squamous epidermidisation by ingrowth of the squamous epithelium of the ectocervix under the columnar epithelium.

Initially squamous cells are immature but ultimately become mature and indistinguishable to the adjacent squamous epithelium.

The metaplastic process is very active at the time of menarche and during and after first pregnancy. These metaplastic cells have got the potentiality to undergo atypical transformation by trauma or infection[82].

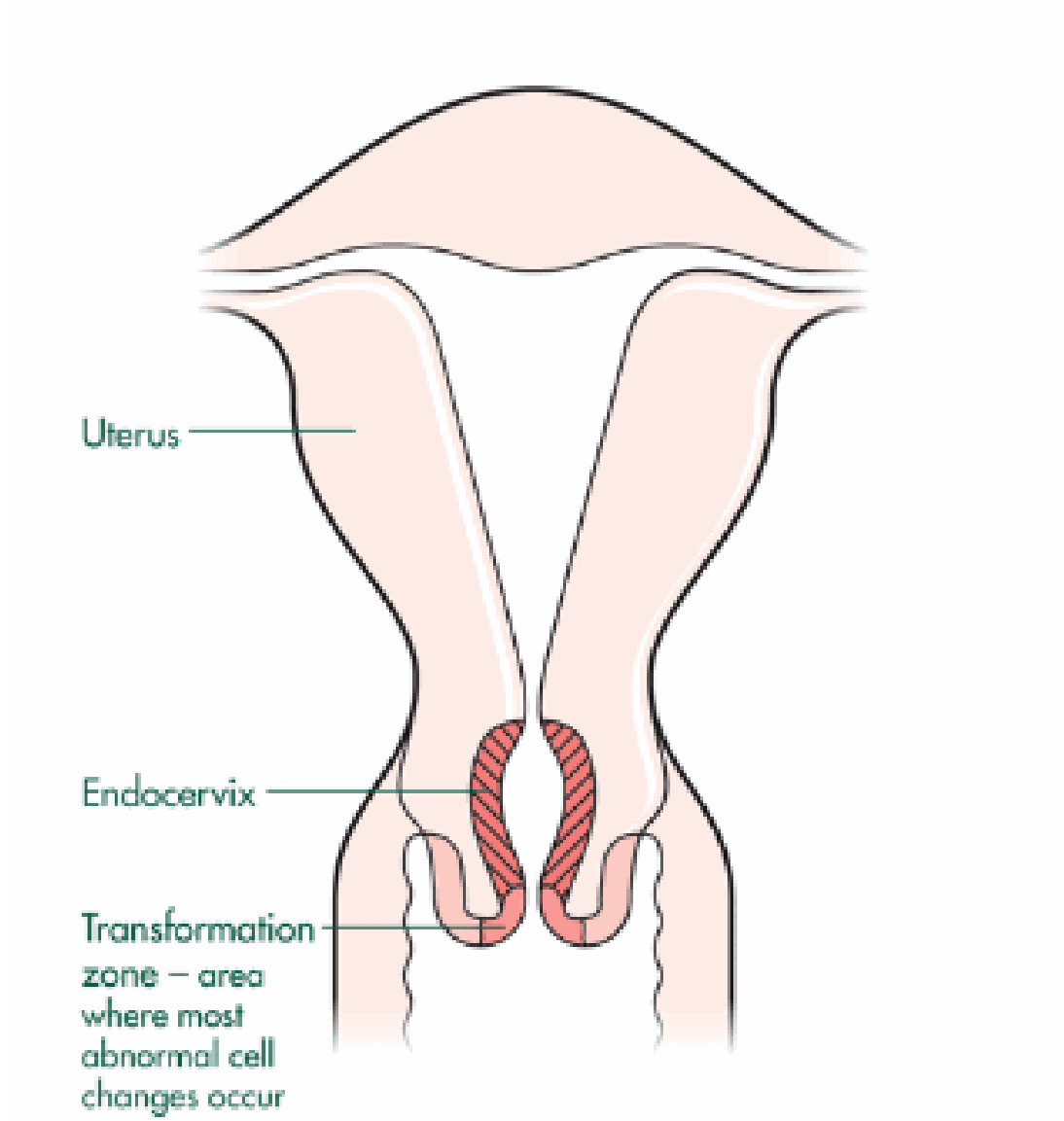


Figure 2 : Transformation zone

HISTORY OF PRECANCEROUS LESIONS OF CERVIX

The history of precancerous lesions of cervix is not a very recent one. From time immemorial, efforts have been made by mankind to inspect the cervix. Galen and Celsus as early as 1st century AD used vaginal speculum. Paulus used tubular speculum in 7th century AD. Ambrose Pare (1510-1590) recommended the use of vaginal speculum to expose and evaluate the cervix. Recainer in 1818 popularized the bivalve speculum.

There has been remarkable contribution of Rudolf Ludwig Karl Virchow for finding out cellular theory of pathology in 1858, for which he has been rightly regarded as "Father of cellular pathology".

The existence of a preinvasive stage in the development of squamous carcinoma has been known since Sir. John Williams delivered lecture in Harvein in 1886. He presented a case of symptomless carcinoma of cervix which is now thought to have been a case of carcinoma in situ.

Schauenstein, a young gynaecologist from Graz, Austria published a paper in 1908, who was probably the very first one to point out similarity between the histological pattern of the non-infiltrating and the early infiltrating carcinoma of the cervix. He expressed the opinion that abnormal surface epithelium deserved the name of cancer because it is the source of origin of infiltrating carcinoma.

Pronai in 1909 and Rubin in 1910 supported the views of Schauenstein by additional examples. Rubin was the one who suggested the term "Carcinoma in situ" as a forerunner of invasive carcinoma; and was revived by Broders in 1932.

Walter Schiller, a gynaecological pathologist in the 1920s found out the relationship of the preinvasive cervical cancer to the invasive form based on the detailed histological analysis. He also observed that the cells of squamous cell carcinoma of cervix were conspicuously lacking in large amounts of glycogen, whereas normal squamous epithelium was characterized by an abundance of it. As a result of this observation he described 'The Schiller iodine test'.

In 1924 George N. Papanicolaou introduced cytology as a method of diagnosis of cancer of cervix. In 1941, in collaboration with Herbert F. Traut he published "The diagnostic value of vaginal smears in carcinoma of uterus"[63], later a monograph as "Diagnosis of uterine cancer by vaginal smear" was published in 1943 which was an important milestone in gynaecological cytology. His contribution have been honoured by the term Pap smear synonymous with the cytologic study of the female genital tract.

There were 2 other prior contributors to this method, Romanian Pathologist Aurel Baber, and an Italian gynaecologist O. Viana, although they did not receive the attention and recognition.

In 1945, the American Cancer Society endorsed the use of vaginal smear as the effective cancer prevention test for carcinoma of uterine cervix. The person most responsible for this step was Dr. Charles Camerson, the first medical and scientific director of society, who also organized the first National Cytological Conference in Boston in 1948.

In 1951 Zinser's cytodiagnosis was published. Pundel in 1954 published many monographs on gynaecological cytology.

Weild[98] in 1956 introduced contrast microscopy as an office technique and same year William Christopherson suggested PAP smear has an important role in the reduction of incidence of cervical cancer.

In 1956, Regan et al estimated nuclear and cell diameters and total areas of abnormal cells and their nuclei in cases of dysplasia, carcinoma in situ and invasive cancer. He introduced the term dysplasia (mild, moderate and severe); a stage of preinvasive process prior to carcinoma in situ.

In 1967, Richart proposed the term "Cervical intraepithelial neoplasia". This concept was based on nuclear changes evident within the early lesions. It is a histopathological condition where part or whole thickness of cervical squamous epithelium is replaced by cells showing varying degrees of atypia.

In India, Kishore and Agarwal (1936) were the earliest workers to study cytohormonal changes.

Khanolkar (1950) also contributed much to the field of cytology. Wali and Hali studied the role of exfoliative cytology and concluded that pre-cancerous lesions are present in younger age groups and should be screened by cytology.

Cytological study of cancer in situ was done by Reddy and Sharada in 1963. Anasuya Rao et al (1973) studied vaginal cytology in detection of early carcinoma of cervix.

Similarly, Malvi, Gullas, Nair and Leena Devi 1974 did mass screening for early detection of carcinoma cervix.

NATURAL HISTORY OF NEOPLASIA OF CERVIX

Cervical cancer doesn't develop suddenly from normal tissues but is preceded by intraepithelial histopathological changes.

Ever since the 1st population studies conducted in the 1950s in the United States, certain facts about pre-cancerous lesions of the uterine cervix became apparent. They are:

- Pre-cancerous lesions of cervix occurred generally several years earlier than those with invasive carcinoma.
- Pre-cancerous lesions did not necessarily progress to invasive cancer in a period of month or year.
- Some of the pre-cancerous lesions regressed spontaneously.
- There were marked cytological and histological differences amongst the various pre-cancerous lesions with regard to the degree of abnormality and cellular configuration.
- Incidence of invasive carcinoma in the population was much less considering the rate of discovery of the pre-cancerous lesions, indicating that not all of the pre-cancerous lesions progressed into invasive carcinomas within the lifetime of the patient.
- CIN-1 may progress to invasive cancer without going through the stages of CIN II and III. This is called "Jumping" of the lesion. This is extremely uncommon.

All dysplastic lesions are not potentially malignant. Majority of mild and moderate lesions revert to normal and majority of severe lesions progress to malignancy but a few lesions remain unchanged also. The risk of manifestation of malignancy is reported to be as follows:

- Mild dysplasia to malignancy – 3.42%
- Moderate dysplasia to malignancy – 20.9%
- Severe dysplasia to malignancy – 71.5%

Mild dysplasia takes 5 years to change to CIS, whereas moderate dysplasia to CIS takes 3 years, and severe dysplasia progresses very fast i.e within a year time to CIS. These observations led to a number of attempts to investigate the frequency with which the CIN progress to invasive cancer.

- Galvine et al (1955) found that mild abnormalities 54% regressed, and 16% progressed, while with severe changes 17% regressed and 65% progressed to carcinoma in situ.
- Peterson (1956) reported that 30% of carcinoma insitu followed up for 10 years developed cancer.
- Kottmeir (1961) found that 71% of carcinoma insitu progressed to invasive cancer in 10 years.
- Johnson et al (1968) found that 1.4% of patients with mild dysplasia progressed to carcinoma insitu.
- Richart and Barron (1969) followed patients with dysplasia for several years and found that median transit time for progression from mild, moderate to severe dysplasia to carcinoma in situ were 58months, 38 months and 12 months respectively. There was only a 6% regression rate.
- Kurihara et al (1972) from Japan followed a large group of women with various grades of dysplasia and CIN. He found that 10% cases of mild to moderate dysplasia progressed to severe dysplasia & 30 % of severe dysplasia and 54% CIN progressed to invasive cancer over a period of 1 to 7.5 yrs.

- Barron et al in 1978 put forward a range of 3-10 yrs for carcinoma in situ phase to progress to invasive cancer.
- Ferenezy et al in 1982 showed the average age woman with various neoplastic lesions plotted against the transit time.
- Mc Indore et al (1984) found that there was a 36% progression rate from carcinoma in situ to invasive cancer at 20 years follows up.
- Nasiell et al (1986) reported 62% of low grade lesions regressed after a follow up period of 39 months, 22% of lesions persisted and 16% progressed .
- Tidbury et al (1902) reported that size of CIN lesions was prognostic for the occurrence of invasive carcinoma .

Oster 1993 reviewed the literature and has summarized regression, persistence and progression rates[61].

	Regression	Persistence	Progression to CIS	Progression to invasion
CIN I	57%	32%	11%	1%
CIN II	43%	35%	22%	5%
CIN III	32%	<56%	0	>12%

	Normal	CIN I, II	CIN III / CIS	Invasion
Duration of disease progression(years)	0	5	10	20
Age of the Patient (Years)		25 - 30	30 - 35	40 - 45

At present we cannot identify which individuals with CIN have the potential for malignant progression. A blanket approach to treatment is therefore necessary. Current opinion largely favours the treatment of patients with CIN II or III lesions, although conservatism may be justified for CIN I, (Robertson J.H. et al., 1988.)

TERMINOLOGY AND NOMENCLATURE

Inspite of the fact that the significance of the cytological screening and the intraepithelial lesions has been recognized since the beginning of 20th century, general acceptance of uniform terminologies for such lesions was not determined which led to instances in which the results were of overwhelmingly positive character, leaving no doubt as to their final interpretation and on the other hand, there were cases in which there is strong but not fully convincing evidence of malignancy[87].

These considerations led **Paponicoloau and Traut[63]** in 1941 to classify cytological smears. They divided the smear in to 5 groups.

Group I	-	Absence of atypical or abnormal cells
Group II	-	Atypical cytology but no evidence of malignancy
Group III	-	Cytology suggestive of but not conclusive of malignancy
Group IV	-	Cytology strongly suggestive of malignancy
Group V	-	Cytology conclusive for malignancy

This classification received a lot of criticism, mainly because of lack of diagnostic precision in group III and uniformity in the number of grades used and absence of clinicopathological expression. The international Academy of Cytology has therefore prohibited its use in official publication and recommends the use of nomenclature with an inherent histopathological prognosis.

This was modified and WHO recommended (1952-1973) that cytology smears should be classified as :

Group I	-	Normal
Group II	-	Inflammatory
Group III	-	Dysplasia
		Mild dysplasia
		Moderate dysplasia
		Severe dysplasia
Group IV	-	Carcinoma in situ
Group V	-	Invasive carcinoma / squamous cell carcinoma

In 1967, Ralph M. Richart[74] introduced the term cervical intraepithelial neoplasia (CIN). It is a single descriptive term which would embrace all grades of dysplasia as well as carcinoma in situ under single heading & graded as I - IV. Later on he used only 3 grades of CIN from I – III because of excellent evidence that there was no significant or meaningful difference between CIN grade III (severe dysplasia) and CIN grade IV (carcinoma in situ).

Richart's Classification

CIN I	-	Mild dysplasia
CIN II	-	Moderate dysplasia
CIN III	-	Severe dysplasia and Carcinoma in situ

In 1975 WHO correlated CIN with various grades of dysplasia and CIS When 1/3rd or less of the distance from basement membrane to the surface is involved, the lesion is called CIN-1, when more than 1/3rd but less than 2/3rd is involved it is CIN-II, when more than 2/3rd involved, it is CIN III, full thickness involvement was called CIS and is now included in CIN III.

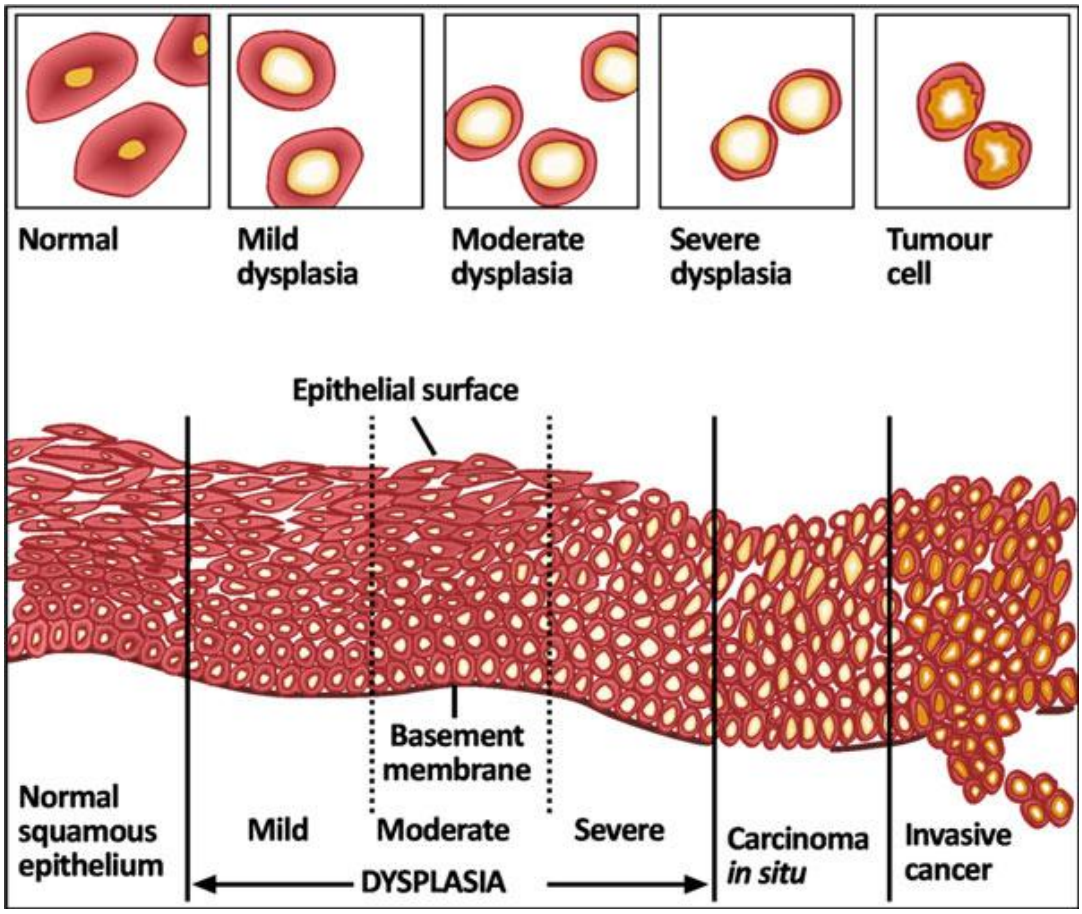


Figure 3 : Classification of Dysplasias

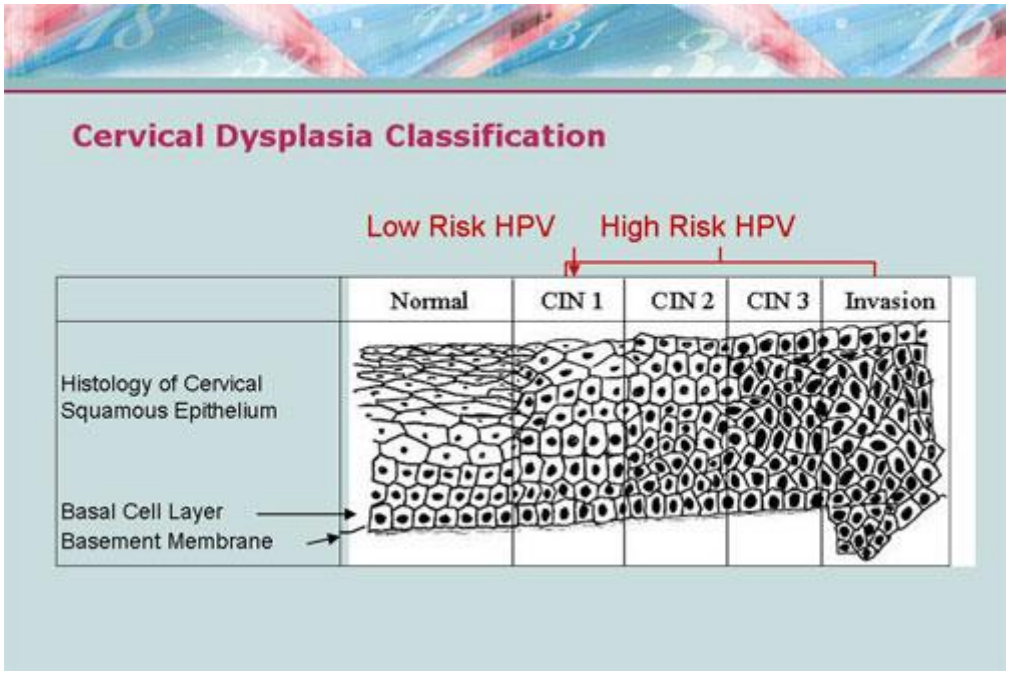


Figure 4 : CIN Classification

In an attempt to establish consensus in cervical cytological terminology, in 1988[34] the National Cancer Institute held a workshop, which met in Bethesda, Maryland and proposed a new system for reporting cervical cytology. This is referred to as "The Bethesda System" which was revised in 2001.

CRITERIA FOR SPECIMEN ADEQUACY AS PER BETHESDA SYSTEM

Following criteria for satisfactory specimen

1. Appropriate labeling and identifying information.
2. Relevant clinical information.
3. Adequate number of well preserved and well visualized squamous epithelial cells.
4. An adequate endocervical/ transformation zone component.

Well preserved and visualized squamous epithelial cells should be spread more then 10% of the slide surface. An adequate endocervical, transformation zone component should consist, at a minimum of 2 clusters of well-preserved endocervical or squamous metaplastic cells with each cluster composed of a minimum of at least five appropriate cells.

A Specimen is "Satisfactory for evaluation but limited by" if any of the following apply

1. Lack of pertinent clinical patient information.
2. Partially observing blood, inflammation, thick areas, poor fixation air drying artifact, contaminant etc., which, preclude interpretation of approximately 50-75% of epithelial cells.
3. Lack of endocervical/ transformation zone component as defined above.

A Specimen is "Unsatisfactory for evaluation" if any of the following apply

1. Lack of patient identification on the specimen and/ or requisition form.
2. A technically unacceptable slide is defined as one that is broken and cannot be repaired or as having cellular material that is inadequately preserved.
3. Scanty squamous epithelial components.
4. Observing blood, inflammation, thick areas, poor fixation, air-drying artifact, contaminant etc., which preclude interpretation of approximately 75% or more of the epithelial cells.

BETHESDA SYSTEM FOR REPORTING CERVICAL/ VAGINAL CYTOLOGY(2001)[62,92]

Specimen type

Indicate conventional smear (Pap smear) vs. liquid-based vs. other.

Specimen adequacy

- Satisfactory for evaluation (Describe presence or absence of endocervical/ transformation zone component and any other quality indicators, e.g. partially obscuring blood, inflammation, etc.)
- Unsatisfactory for evaluation *(specify reason)*
- Specimen rejected/not processed *(specify reason)*
- Specimen processed and examined, but unsatisfactory for evaluation of epithelial abnormality because of *(specify reason)*

General categorization *(optional)*

- Negative for intraepithelial lesion or malignancy
- Epithelial cell abnormality: See "Interpretation/result"
  (Specify 'squamous' or 'glandular' as appropriate.)
- Other: See "Interpretation/result"
  (e.g. endometrial cells in a woman > 40 years of age)

Automated review

If case examined by automated device, specify device and result.

Ancillary testing

Provide a brief description of the test methods and report the result so that it is easily understood by the clinician.

Interpretation/result

Negative for intraepithelial lesion or malignancy

*(*When there is no cellular evidence of neoplasia, state this in the "General categorization" above and/or in the "Interpretation/result" section of the report, whether or not there are organisms or other nonneoplastic findings.)

Organisms

- Trichomonas vaginalis
- Fungal organisms morphologically consistent with Candida spp
- Shift in flora suggestive of bacterial vaginosis
- Bacteria morphologically consistent with Actinomyces spp
- Cellular changes consistent with Herpes simplex virus

Other nonneoplastic findings

(Optional to report; list not inclusive):

- Reactive cellular changes associated with inflammation (includes typical repair) radiation, intrauterine contraceptive device (IUD)
- Glandular cells status post hysterectomy
- Atrophy

Other

- Endometrial cells (in a woman > 40 years of age)

  *(*Specify if 'negative for squamous intraepithelial lesion')

Epithelial cell abnormalities

Squamous cell

- Atypical squamous cells of undetermined significance (ASC-US) cannot exclude HSIL (ASC-H)

- Low-grade squamous intraepithelial lesion (LSIL) encompassing: HPV/mild dysplasia/CIN 1
- High-grade squamous intraepithelial lesion (HSIL)encompassing: moderate and severe dysplasia, CIS/CIN 2 and CIN 3; with features suspicious for invasion (if invasion is suspected)
- Squamous cell carcinoma

Glandular cell

- Atypical

  Endocervical cells (NOS *or specify in comments)*

  Endometrial cells (NOS *or specify in comments)*

  Glandular cells (NOS *or specify in comments)*
- Atypical

  Endocervical cells, favor neoplastic

  Glandular cells, favor neoplastic
- Endocervical adenocarcinoma *in situ*
- Adenocarcinoma

  Endocervical

  Endometrial

  Extrauterine

  Not otherwise specified (nos)

Other malignant neoplasms: *(specify)*

Educational notes and suggestions *(optional)*

Suggestions should be concise and consistent with clinical followup guidelines published by professional organizations (references to relevant publications may be included).

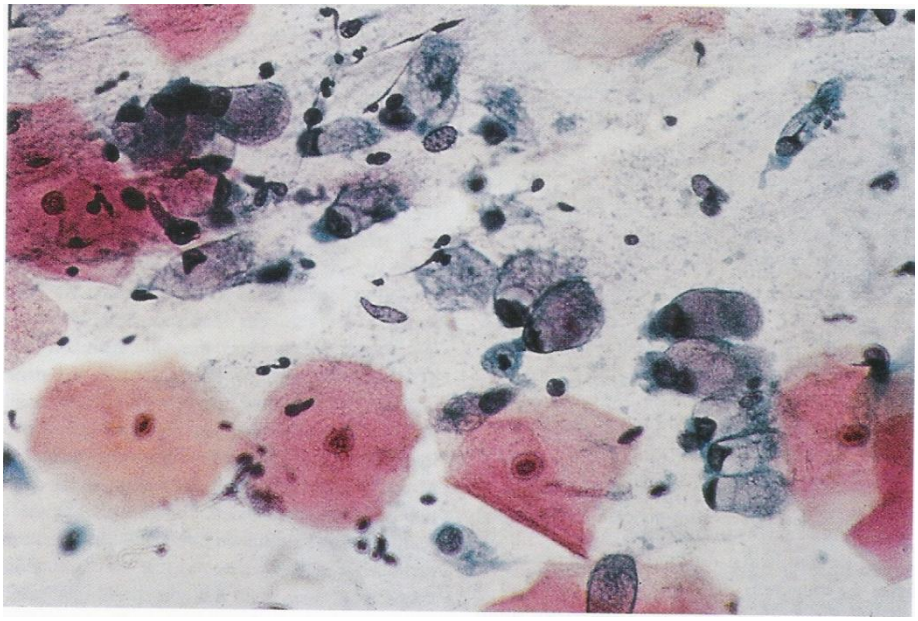


Figure 5 : Normal Papanicolaou smear

Pink Staining Superficial squamous cells with tall columnar endocervical cells scattered throughout

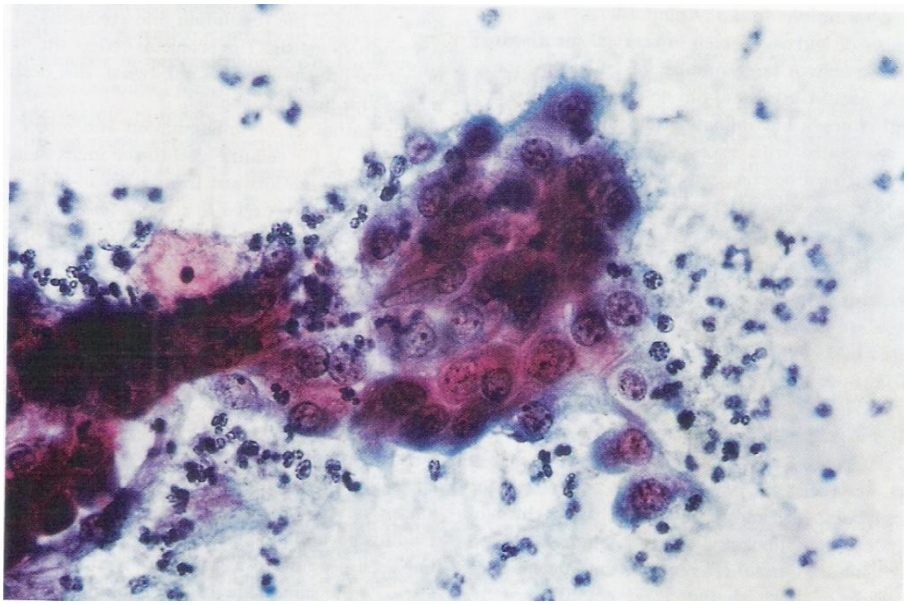


Figure 6 : Regenerative tissue changes

Enlarged nuclei without malignant features

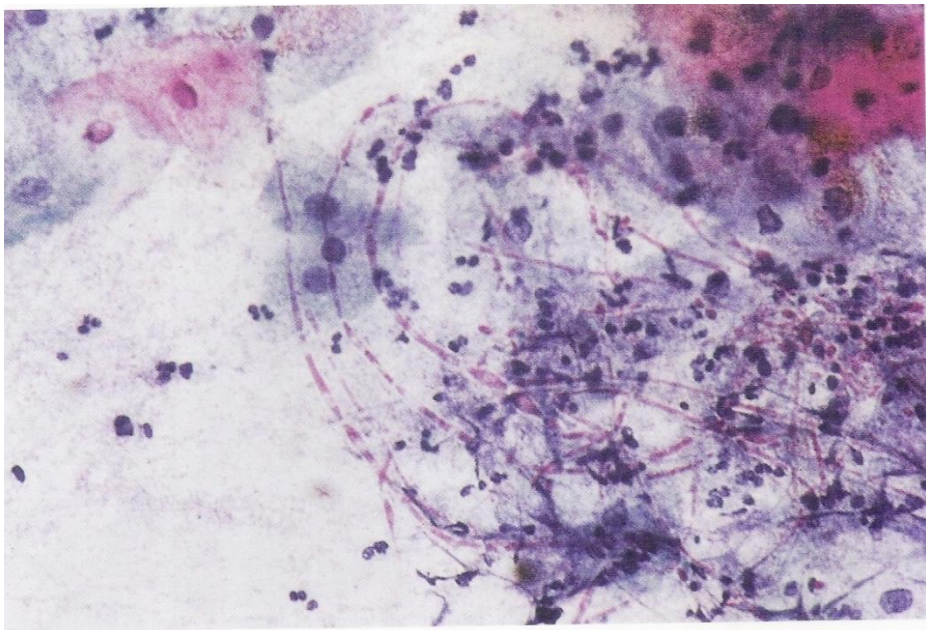


Figure 7 : Candida species

Spore bearing, pink staining pseudohyphae

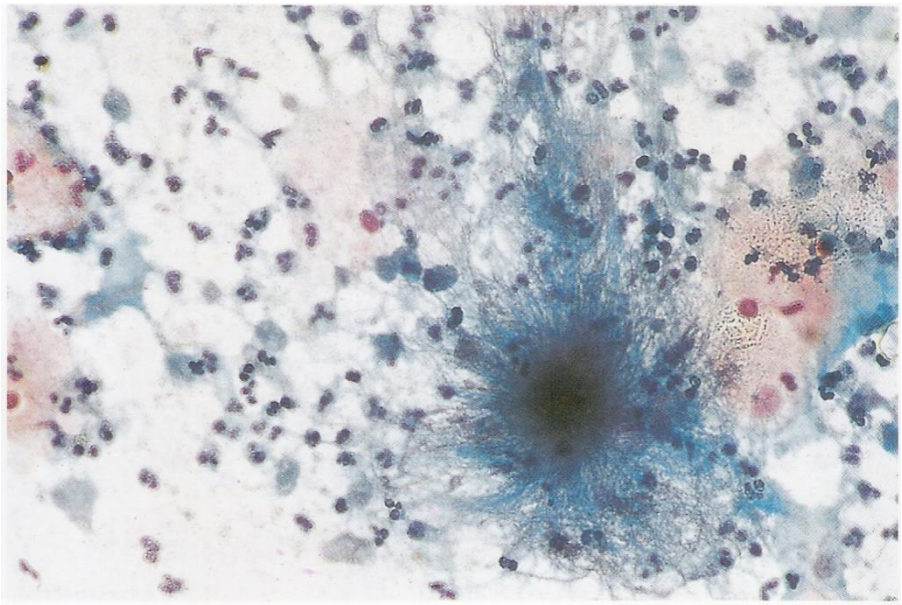


Figure 8 : Actinomyces with characteristic projection and Trichomons Vaginalis with pale gray staining

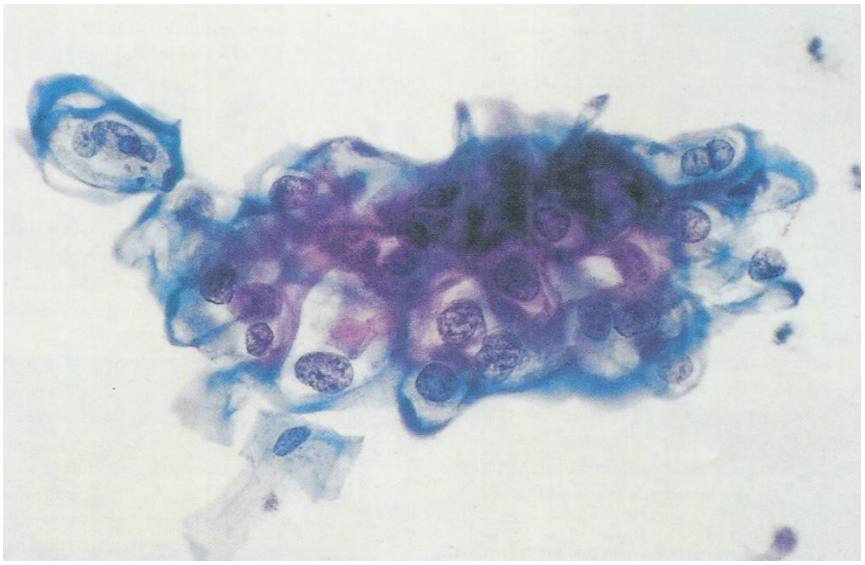


Figure 9 : HPV Infection with group of koilocytes

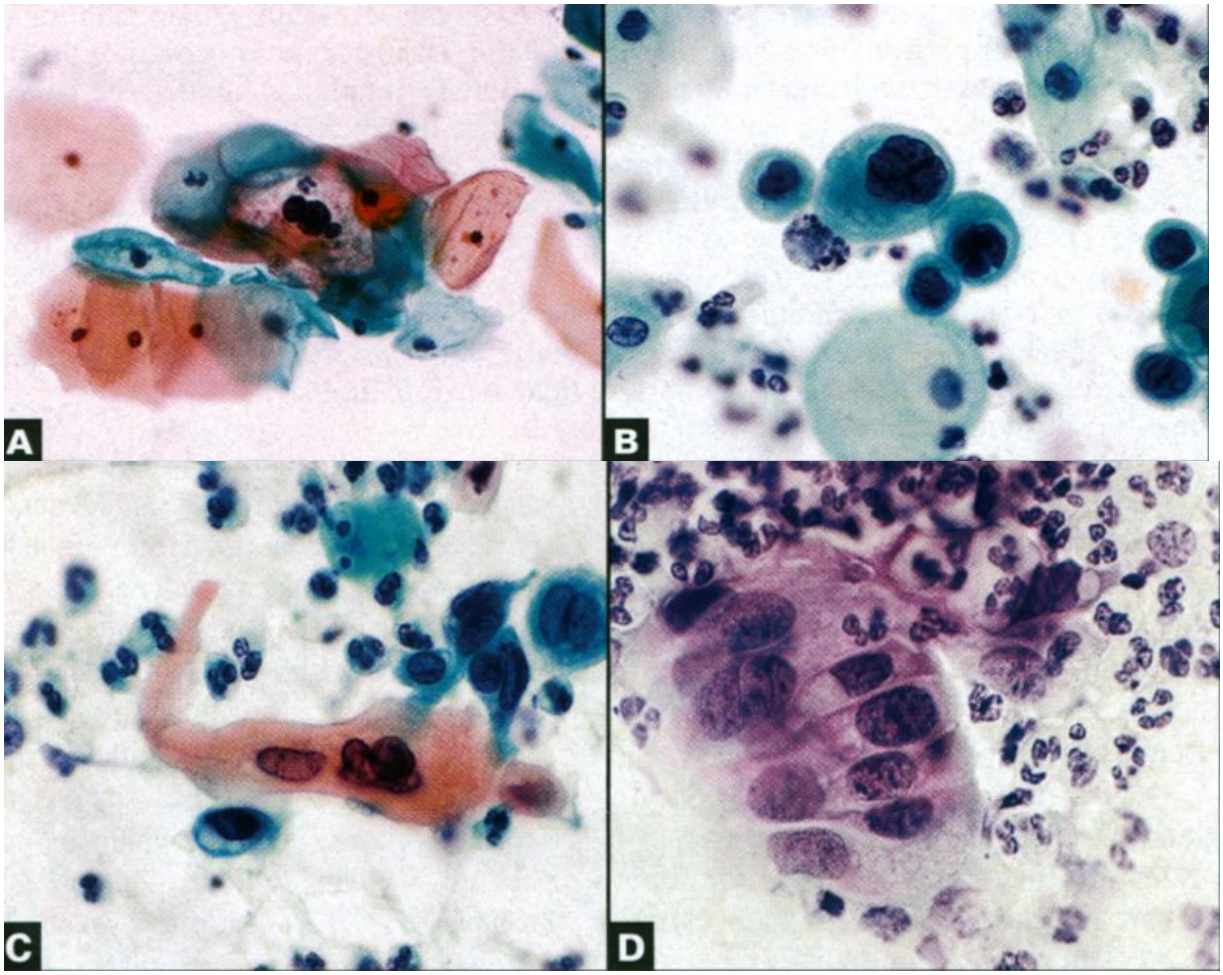


Figure 10 : Photomicrographs of cervical cytology:

(A) Low-grade squamous intraepithelial lesion

(B) High-grade squamous intraepithelial lesion

(C) Squamous cell carcinoma

(D) Adenocarcinoma

Comparison of Different Classification Systems[36]

Papanicolaou (1943)	Dysplasia/CIN system (WHO 1975)	Bethesda System (1988)
I	Normal	Normal
II	Inflammatory	Infection HPV ASCUS
III IV	CIN I/mild dysplasia CIN II/moderate dysplasia CIN III/severe dysplasia CIS	LSIL HSIL
V	Squamous cell carcinoma	Squamous cell carcinoma

The Cancer prevention and control division of National Cancer Institute Participants, unanimously approved the following recommendations.

A. The cytopathology report is a medical consultation

1. The cytopathology has the ultimate responsibility for the diagnostic evaluation and reporting.
2. The referring physician has an obligation to include all the patient clinical information in the request for cytological evaluation, so that the cytopathologist can consult effectively.
3. The cytopathologist should determine whether the specimen is adequate for diagnostic evaluation, if it is unsatisfactory or less than optimal this should be noted in the report.

B. The papanicolaou classification of reporting is not acceptable in modern practice of diagnostic cytology

1. Pap classification does not reflect current understanding of cervical/vaginal neoplasia.
2. The Pap classification has no equivalent in diagnostic histopathological terminology.
3. The Pap classification does not provide diagnosis for non-cancer entities.
4. As a result of numerous provided idiosyncratic modifications, the specific Papanicolaou classification no longer reflects diagnostic interpretations uniformly.

C. The Bethesda system should serve as a guideline for cytopathology reports of cervical /vaginal specimens

1. Provide for effective communication among cytopathologist and referring physicians.
2. Facilitate cytological and histological correlation.
3. Facilitate research into the epidemiology, biology and pathology of cervical lesions.
4. Provide reliable data for National and International Statistical Analysis and comparisons.

EPIDEMIOLOGY OF CARCINOMA CERVIX

Global distribution of carcinoma of cervix can be divided into high, intermediate and low prevalence zones. The developing parts of Asia, Latin America and North Africa comprise high prevalence zone 18 - 48% compared to 15% worldwide. Lifetime risk of carcinoma cervix ranges about 24% in India.

This distribution suggests an association between incidence of cancer cervix and economic development. Finland has an enormously low incidence of cervical cancer, because of the extensive population wide screening carried out in that country.

There is association of incidence of cancer of cervix with conservative sexual behavior in several countries with different levels of economic development (Spain, Ireland, Israel and Kuwait) suggesting that the economic development is not the only factor in determining the geographic variation of this disease.

Age : Cervical intraepithelial neoplasia occurs at a lower age as compared to invasive cancer of cervix, seen around 35-40 yrs. One-third of the cancer are found in women less than 30 years old.

Invasive cancer of the cervix has two peaks, one at about 35 years and another at about 50-55 years following which there is a reduced incidence.

Race: Orthodox Jews are immune of cervical cancer. It is probably because their husbands are subjected to ritual circumcision in childhood, to the observance of a high moral code or to the strict avoidance of coitus during and after menstruation when the cervical epithelium is more vulnerable. Hence genetic and racial factors can be strong

determinants. This is supported by the fact that this disease can show a familial incidence.

Socioeconomic status: The disease is more prevalent amongst women living in poor conditions with a low income and indifferent to education. Invasive carcinoma of cervix is more common amongst the wives of unskilled workers than it is in those of professional men. The reasons for the socio- economic stratification of the risk of cervical cancer include socio- economic differences in personal exposure or the sexual partner's exposure to the risk of infection with a relevant sexually transmissible agent, sexual hygiene, smoking and diet.

Occupation: Morbidity from cancer of cervix was raised in women textile workers and particularly spinners. The risk of cancer of the cervix in women of low socio-economic status could be due to carcinogens in their husbands working environment.

Sexual behavior

Female: About 50% of women developing cancer are married below 16yrs of age. Early coital activity, frequency of coitus, number of coital partners, non circumcision of husband have been found to be associated. There is 3 - 6 fold greater risk with four or more partners and 9 fold greater risk with ten or more partners. Steady partners had greater risk than non steady partners, because of repeated exposure to a transmissible agent. Coitus before 16 years raises the risk by 16 fold, because of the susceptibility of the cervix to carcinogens during adolescence when the cervix undergoes metaplasia.

Epidemiological studies have shown that cancer cervix is more common in women with uncircumcised male partners. There is higher incidence in Hindus

compared to Muslim women. The interval between menarche and first intercourse is more important than age of first intercourse, thus linking risk of cervical cancer to sexual age rather than chronological age.

Male: There is an association between cancer of the penis and cancer of cervix. Risk of cancer of cervix was 3 to 6 fold higher in wives of men with cancer of the penis than in other women. Women married to men whose former wives had cancer of cervix have a 2 fold increased risk of the disease. Risk is also related to the number of sexual partners that the woman's husband has had.

Smegma: Human smegma remain a potential candidate for carcinogenesis becauses of the increased incidence of other malignancies (eg : penile cancer in uncircumcised males) . An increased risk of cervical cancer in the wives of men with penile carcinomas exists, which can be explained by the carcinogenicity of smegma in both. It has been postulated that the high content of arginine rich histone in spermatozoa may confer carcinogenicity.

Herpes simplex virus – Type 2

An increased risk of cervical dysplasia, carcinoma in situ and invasive cancer has been found in women positive for HSV -2 antibodies[24]. Portions of the herpes virus genome were found in cervical cancer cells. HSV-type 2 virus is capable of transforming cells in vitro when its cytolytic action is abated by molecular manipulation, hence it plays a role as a promotional carcinogen.

After 1 to 8 years of follow up, a 7 fold increase in risk of carcinoma in situ was observed for those positive for HSV – type 2 antibodies. A positive correlation is observed between prevalence of HSV-2 infection as detected by clinical diagnosis and

cervical culture. A study in Canada showed a 2 fold increase in risk of cervical cancer among women with HSV -2 antibodies.

Human Papilloma Virus (HPV)

HPV infection plays a major role in the aetiology of CIN and cervical cancer. HPV is icosahedral double stranded DNA virus. HPV is highly epitheliotropic organism, which produces alteration in the supporting epithelium solely as a secondary effect to the infection of the epithelium. It infects all surface epithelia. Infected epithelia are characterized by proliferation with various degrees of epithelial thickening and papillomatosis.

At least 80 HPV types have been identified. About 22 of these affect the male and female anogenital tract.

Anogenital HPVs are divided into 3 groups that are predictive of their ability to produce neoplasia. (1) low onocogenic risk (2) intermediate oncogenice risk and (3) high oncogenic risk.

1. **Low oncogenic risk group:** Includes HPV types 6, 11, 42, 43 and 44 found in warts, in low grade CIN.
2. **Intermediate oncogenic risk group:** Includes HPV types 31, 33, 35, 51 and 52 can be found in low grades and high grade CIN.
3. **High oncogenic risk group:** Includes HPV types 16, 18, 45 and 56. They are seen in low grade lesions, are over represented in high grade lesions and substantially over represented in invasive cancer. This is particularly striking with HPV type 18, which is found in less that 3% of high- grade CIN lesions but in 15% of invasive squamous cell carcinoma.

The detection of HPV DNA in cervical smears form the basis of cervical HPV testing. The peak of HPV DNA occurrence in cervix is between 15-25 years. The prevalence at this age in sexually active women is 30-40%.The cytological effects of these transient infection are production of changes known as koilocytolic (condylomatous) atypia or borderline cytological nuclear atypia. A low grade squamous intra epithelial lesion (LSIL) may be also be associated with a transient infection. These 3 changes are diagnosed cytologically in 2-6% of women being screened, although the detection of HPV DNA is 5 to 10 times more common.

Most LSIL regress and 11% progress. High grade squamous intraepithelial lesion (HSIL) occur in women 5-10 years older than those with LSIL and suggest that a persistent infection of high viral type may be necessary to produce a high grade lesion. High grade lesions are identified in less than 1% of routine cervical smear.

Development of invasive cancer occurs 5-15 years later than CINs, 80-90% of high grade CIN lesions and cervical cancer are associated with isolation of high oncogenic HPV DNA and the low risk HPV types being associated with low grade lesions. The detection and typing of HPV – DNA in exfoliated cervical cells has made it possible to incorporate this method into screening and diagnostic protocols. HPV typing system is limited to detecting only 7 types of HPV (6, 11, 16, 18, 31, 33, 35).

Hybrid capture and L1 consensus primer polymerase chain reaction are more sensitive and have a wide HPV spectrum[2].

Bauer et al (1991) found that out of 46% women at a university health center tested positive for HPV DNA polymerare chain reaction ; only about 4-6% showed cytological changes on annual screening. Shypman reported a preliminary data from a

4 years follow up of 18,000 women initially screened for cytology and for HPV DNA and has shown that 63% of women who were initially cytologically negative but HPV positive, developed CIN within the follow up period.

Tidy et al reported that 67% of dyskaryotic smears contained HPV 16 and 84% of CIN 3 lesion contained high levels of atleast one of the HPV 6, 11, 16, 18, 31, 33.

Molecular evidence linking HPV with cervical cancer

The viral genome of HPV can be divided into 3 regions; the upstream regulatory region (URR), the early region and the late region. The URR has the function of regulation of viral replication and the transcription of downstream sequences in early region. The early region transcrips proteins that are important in the early life cycle of the virus and interacts with cellular genome of host cell to module a new viral DNA. The late region encodes for capsid protein that surrounds the DNA core.

It is likely that the accumulation of mutated genes is required for cells to become fully transformed. The low risk vius exist in non integrated form and produce diploidy and polyploidy, whereas the high risk viruses produce aneuploidy. Recent studies have showed that integrated viral genome is present in more than 90% of high grade CIN and invasive cancer.

Immuno-supressive state

Men and women who are immunosupressed have a higher risk of developing HPV related lesions of the anogenital tract.

HIV infection is associated with 41% incidence of CIN. Higher incidence of pre-malignant lesions is associated with HIV as compared to normal population.

Other infections

A positive association between Syphilis, Chlamydia trachomatis and cervical cancer has been found. Trichomoniasis and Candidiasis have been associated with CIN . A recent study has shown increased risk of CIN in association with a history of and a present positive culture for Gonorrhea. Cytomegalovirus and Chalmydia trachomatis were strongly associated with cancer of cervix.

Hygiene

Bathing in a bathing tub rather than shower was a risk factor. Lack of daily genital washing was associated with cancer of cervix.

Nutrition

Deficiency of alpha tocopherol, beta carotene, ascorbic acid, folate and retinol have been associated with CIN.

Reproductive factors

Sexually active women are 2-4 times more at risk than is the sexually inactive women. 95% of invasive cancers occur in multipara women having 4 or more children.

Oral contraceptives

Long term use of pills alter the hormonal status of the cervix enabling HPV to escape the normal immune response. Increased sexual freedom that the pills allow may also be a cause.

Cigarette smoking

Nicotine and its major metabolite cocaine are more common in cervical mucus of smokers. Local immunodeficiency due to a reduction in lagerhan cell activity has been linked to smoking.

CYTOLOGICAL SCREENING FOR CERVICAL CANCER

Definition

Screening is defined as presumptive identification of an unrecognized disease by the application of suitable diagnostic procedures, which are safe and simple.

The easy accessibility of the cervix for inspection, palpation and propensity of the cells to exfoliate from precancerous lesions and the apparently prolonged natural history of these lesions provide perhaps the best potential for control of cancer cervix by population screening.

Types of screening

1. Mass screening

The whole population is screened and this is an ideal type of screening method, which effectively brings down the incidence of cancer. But it is very expensive and is not possible in countries like ours.

2. Selective screening

Screening of high-risk women is done.

3. Multiphasic screening

Person can be screened for several conditions at the same visit i.e. Cervix, Breast and genital cancers.

4. Opportunistic screening

Screening for those who visit hospitals for other forms of medical care.

Criteria for screening[5]

- ✓ The test must detect the disease in a stage where early treatment will provide a better prognosis.
- ✓ The test must be sufficiently sensitive to detect the disease in an early stage .
- ✓ The test must be sufficiently specific to distinguish non specific changes from the disease.
- ✓ The test must be cost effective.
- ✓ The test must be sufficiently simple to administer.
- ✓ The screening procedure must be acceptable to those undergoing screening.

Whom to screen

Ideally all women from the age of 18 years should be screened. It is not possible to adopt the same in our country. So the stress in on screening the high risk women.

This includes

- ✓ Early marriage
- ✓ Early intercourse.
- ✓ Early pregnancy.
- ✓ Women with hypertension, diabetes and obesity.
- ✓ Women who smoke.
- ✓ Women with abnormal vaginal discharge.
- ✓ Women with h/o STD and HIV infection or HPV infection.
- ✓ Women who are and had been on oral contraceptives and who are on HRT.
- ✓ Women with multiple sexual partners and sexual promiscuity.
- ✓ Women with family history of cancer.

Automated cytological screening system

Cervical cytologic screening is the mainstay of any cervical cancer prevention programme . The main purpose of screening is to separate from a large group of apparently well persons, a sub group with a high probability of having a particular disease . A screening test is not intended to be diagnostic. Persons with positive or suspicious findings should be referred for diagnosis and necessary treatment. Thus, a cervical biopsy is indicated when Papsmear is positive or equivocal. Cervix should never be treated on the basis of Papsmear.

Recommendations for the use of cervical cytology

Recent evaluation of screening in those countries or regions in which an organized screening program has been in operation for atleast 20 years, eg. British Columbia, Finland, Sweden and the Grampian region of Scotland and Ireland has shown that cervical screening is an effective method of reducing mortality from cervical cancer although it is clear that disease can never be totally eliminated by this method. National Cancer Institute (NCI) and early cancer detection US preventive services task force (USPSTF) gave the guidelines for early cancer detection as follows.

NCI working guidelines: All women who are or who have been sexually active, or have reached 18yr should have an annual Papanicolaou test and pelvic examination. After women has had 3 or more satisfactory normal annual examinations the test may be performed less frequently at the decision of her physician.

USPSTF recommendation: Regular Papanicolaou testing is recommended for all women who are or who have been sexually active. Papanicolaou smears should begin with sexual activity and should be repeated every 1 to 3 years, at the physician

decision. They may be discontinued at the age of 65 yrs if previous smears have been consistently normal.

The International agency for research on cancer examined screening programs and concluded that 5 yearly screening of women between 20 to 64 years reduces the incidence of cancer by 84% while 3 yearly screening of the same group would improve the reduction further to 91%.

WHO (1986)[17] recommends screening according to the resources of the relevant country and points out that even a single smear in a life time if appropriately timed will provide some benefit. If more can be afforded, the schedule can be increased to the smears every 3 to 5 years from 25-60 years.

ACOG (2003) recommends screening for all sexually active women starting from age of 21 years or after 3 years of vaginal sex upto the age of 70. Screening should be yearly till the age of 30. Thereafter it should be at the interval of 2 – 3 years after three consecutive yearly negative smears.

The effectiveness of different screening policies is measured by the proportionate reduction in the incidence of invasive squamous cell carcinoma of cervix, assuming 100% compliance.

Policy	Age Group	% reduction in cumulative incidence of invasive SCC	Number of smear per women
Every 10 yrs	25-64	64	5
Every 5 yrs	35-64	70	6
Every 5 yrs	25-64	82	8
Every 5 yrs	20-64	84	9
Every 3 yrs	35-64	78	10
Every 3 yrs	25-64	90	13
Every 3 yrs	20-64	91	15
Every 1 yrs	20-64	93	45

Cytological screening[44] has become the most important tool in bringing down the incidence of cervical cancer. But what is missed always and should be promoted is the empowerment of women through education. In developing countries like India, the ideal should be frequent screening with a high coverage and good quality control.

The validity of a cervical smear

The degree of confidence that can be placed in a cervical smear report has been a topic of concern for many years. Measurement of the sensitivity, specificity and predictive values of the test indicate that this concern may well be justified.

Sensitivity of cervical smears: 'Sensitivity' of cervical cytology refers to the ability to detect women with cervical neoplasia in the screening procedure and is expressed as the proportion of women with cervical neoplasia who had a positive Papsmear.

Sensitivity is calculated as follows.

$$Sensitivity = \frac{Truepositives}{Truepositives + Falsenegatives} \times 100$$

Sensitivity for Cervical smear is approximately 85%

False negative cervical cytology can be subdivided into 3 main categories as summarized below :

Causes of false negative cervical cytology

Sample error	:	The diagnostic cells are not on the slide
Screening error	:	The cells are on the slide but are missed by the pathologist in screening the smear
Interpretative	:	The pathologist examined the cells in question and judged them non malignant when infact they were malignant.

60% of false negative smears occur due to sample error. Screening error in our experience accounts for approximately 40% of false negative errors and interpretative errors are rare.

Bigrigg et al states a false negative rate of 15% in detection of histologically confirmed cervical intraepithelial lesion.

Specificity of a cervical smear report and positive predictive value: The specificity of a cervical cytology refers to the ability of the test to identify healthy individuals in the screened population and is expressed has the proportion (percent of healthy people who when screened have a negative result). It is calculated as

$$Specificity = \frac{Truenegatives}{Truenegaitives + Falsepositives} \times 100$$

Most studies where histology has been used as a gold standard reports specificity of 97 to 99.8%. Causes of false positive reports of cervical smears include interpretative error in the face of cervicitis, repair, radiation or chemotherapy effect or metaplasia being interpreted as CIN or carcinoma. Excellent specificity is what supports cytology as an excellent screening method.

The only drawback is the high false negative rates. False negatives can be held to a low value by giving careful attention to the technical aspects of obtaining the smear and using highly trained and experienced cytotechnologist. In addition, taking 2 simultaneous smears and repetition of smear at 3 months interval can decrease false negative rates. Screening regularly at 2 year intervals definitely reduces the false negative rates.

Although cytology is considered the most practical method for cervical cancer screening, there is some question about the cost benefit relation of this method. There is no satisfactory formula available that provides an accurate cost benefit analysis of this screening technique. It is only possible to appraise the value of cytology in terms of improvement in the morbidity of cervical cancer.

Programmes with shorter intervals are much likely to detect the lesions early and to eradicate them preventing the development of invasive cancer, although at a higher cost.

The similarity between family planning programmes and cervical neoplasia detection programmes is that their population of interest is almost identical, namely women in the reproductive age group who are sexually active. When both programmes are combined significant accomplishment is possible at low cost.

MATERIALS AND METHODS

This study was conducted in the Department of Obstetrics and Gynaecology at Shri B.M.Patil Medical College Hospital and Research centre, Bijapur. 400 women were screened who belonged to age group of 20 to 60 years during the period from October 2008 to July 2010.

Ethical clearance was obtained from the institution. All the patients underwent thorough history taking, general physical examination, systemic examination and pelvic examination after taking Pap smear.

Inclusion Criteria

Women between 20 to 60 years

Exclusion criteria

- Patients with known cervical cancer
- Unmarried girls
- Pregnant women
- Puerperal women
- Post pelvic irradiation
- Menstruating women
- History of vaginal medication or lubrication within 24 to 48 hours

Equipment for Study

- Pair of sterile gloves
- Sim's speculum
- Anterior vaginal wall retractor
- Ayre's spatula
- Clean glass Slides
- Fixative solution

Method

1. Naked eye examination of the cervix after exposing it with a bivalve speculum/ sims speculum with anterior vaginal wall retractor.
2. Cytologic specimen collection

Procedure

When a patient who fulfilled the criteria of the study, came to the gynaecology OPD the procedure was explained to the patient in detail, clinical details were noted and entered into the proforma.

The patient was put in dorsal position after emptying the bladder. Per speculum examination was done without using lubricants. Naked eye examination of the cervix was done to evaluate its colour, shape, size, presence of any lesions, discharge. The cervical smear was then taken by means of the scrape technique using the Ayre's spatula.

The longer end of the spatula was inserted into the external Os and rotated through 360^0 maintaining firm pressure so as to scrape the squamocolumar epithelial junction throughout its circumference[21]. Care was taken to include all abnormal looking areas. The spatula was then withdrawn carefully without touching the vaginal walls to avoid contamination with cells from the lower genital tract.

The smear was made by spreading the scraped material evenly, with a circular motion on a glass slide having the patients identity labeled. It was then fixed in fixative solution, which contains 95% alcohol and ether for 15 – 30 minutes and then sent to the cytopathology laboratory.

The smears were stained according to modification of Papanicolaou (1942)

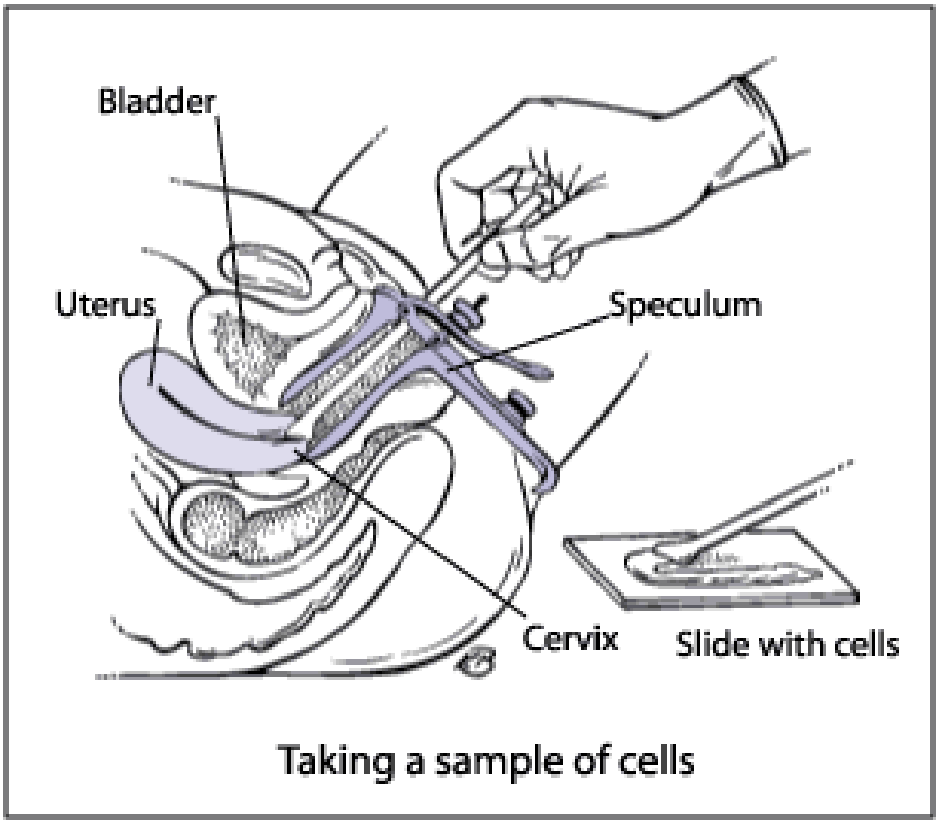


Figure 11 : Procedure of taking Pap smear

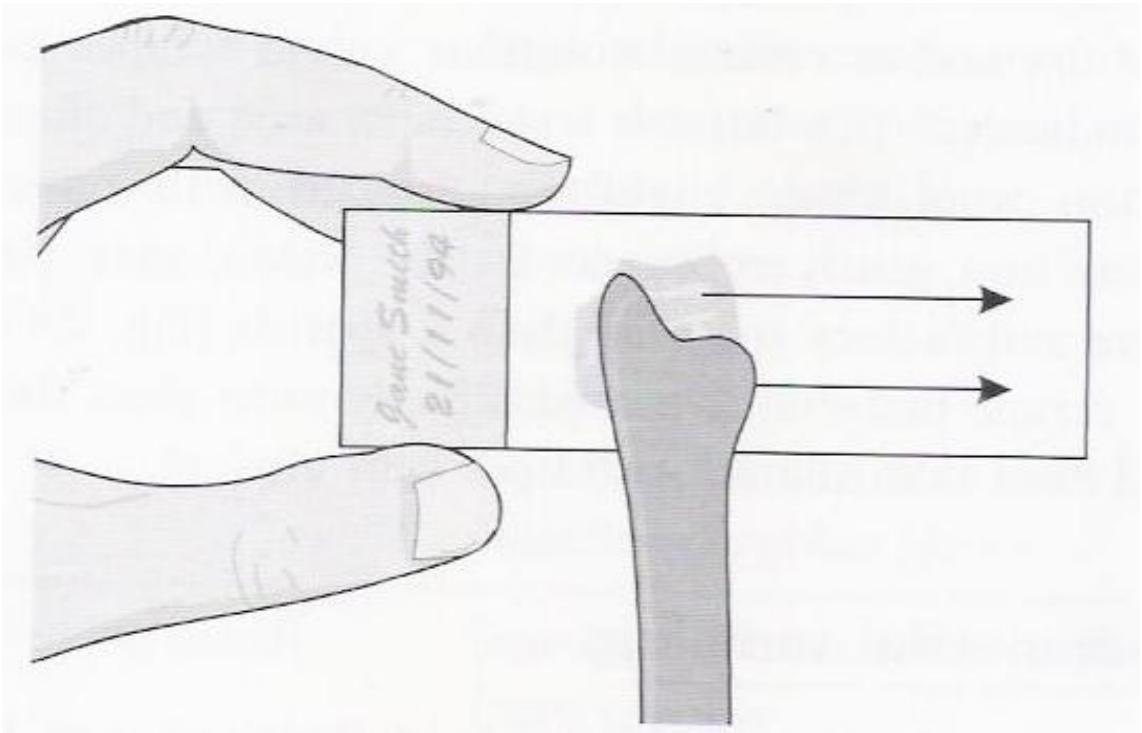


Figure 12 : Procedure of making slide

Procedure

1. Transfer the slides directly from the fixative without delay to 90%, 70%, 50% alcohol – 2 min. each
2. Rinse in water – 1 min.
3. Stain with Harris Hematoxylin – 5 min.
4. Rinse in water – 2 min
5. Differentiate in 0.5% aqueous HCL – 10 sec approx
6. Rinse in water – 2 min.
7. 'Blue" in Scott"s tap water substitute – 2 min
8. Rinse in water – 2 min
9. Dehydrate in 50%, 70%, 80% alcohol – 2 min each
10. Stain in Orange G6 – 2 min.
11. Rinse in 95% alcohol – 2 min.
12. Stain in EA 50 – 3 min.
13. Rinse in 95% alcohol – 1 min.
14. Clean in Xylol , 3 changes – 10 dips
15. Mount in Distrene 80 Dibutyl Phosphate Xylene (DPX)

The smears were classified as per Bethesda System (2001)20,68

Figure 13 : Papanicolaou staining jars

OBSERVATIONS AND RESULTS

Table No. 1
Distribution of Patients according to Age

S No.	Age in Yrs	No. of Patients	Percentage (%)
1	20 – 29	67	16.75
2	30 – 39	138	34.5
3	40 – 49	118	29.5
4	50 – 60	77	19.25
	Total	400	100

Above table shows that 16.75% were in 20 – 29 years of age, 34.5% were in 30 – 39 years, 29.5% were in 40 – 49 years, 19.25% were in 50 – 60 years of age.

Graph 1 : Distribution of Patients According to Age

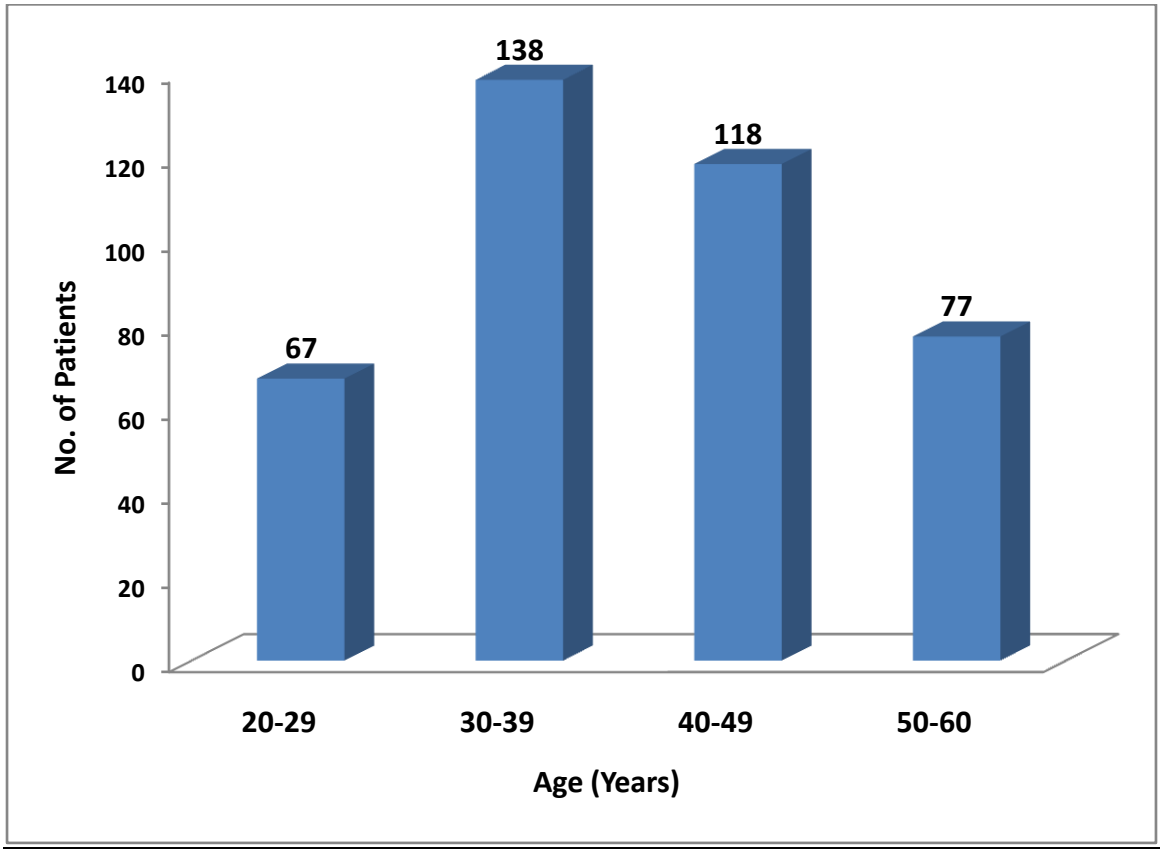


Table No. 2

Distribution of Patients according to Parity

S No.	Parity	No. of Patients	Percentage (%)
1	Nulliparous	8	2
2	1 – 2	132	33
3	3 – 5	198	49.5
4	>5	62	15.5
	Total	400	100

Majority of patients i.e 49.5% were of parity 3 – 5. 33% were of parity 1 – 2, 15.5% were of parity >5 whereas 2 % were nulliparous.

Graph 2 : Distribution of Patients According to Parity

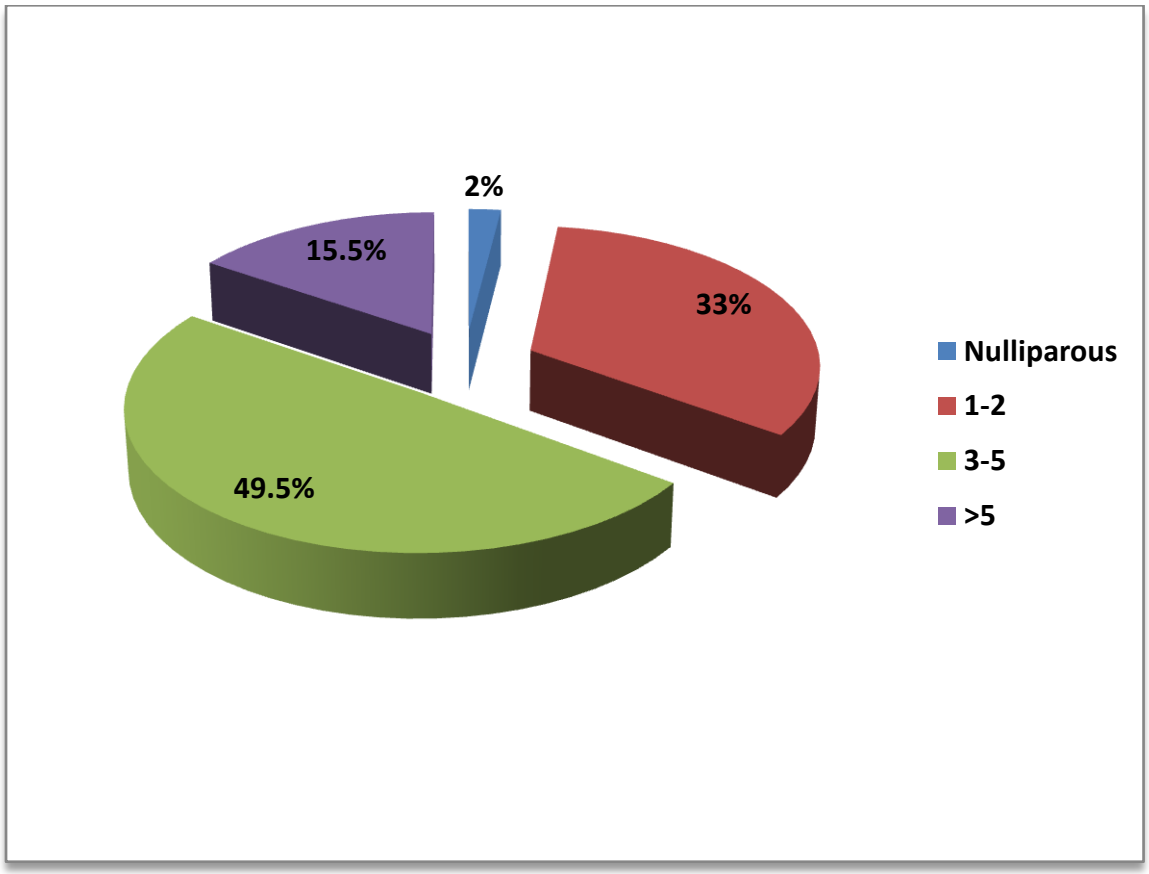


Table No. 3

Distribution of Patients according to Socio-economic Status

S No.	S-E Status	No. of Patients	Percentage (%)
1	Low	210	52.5
2	Middle	150	37.5
3	High	40	10
	Total	400	100

Most of the patients studied were from low socio-economic group, contributing 52.5% patients, while 37.5% were from middle class. High income group comprised only 10% patients.

Graph 3 : Distribution of Patients According to Socio Economic Status

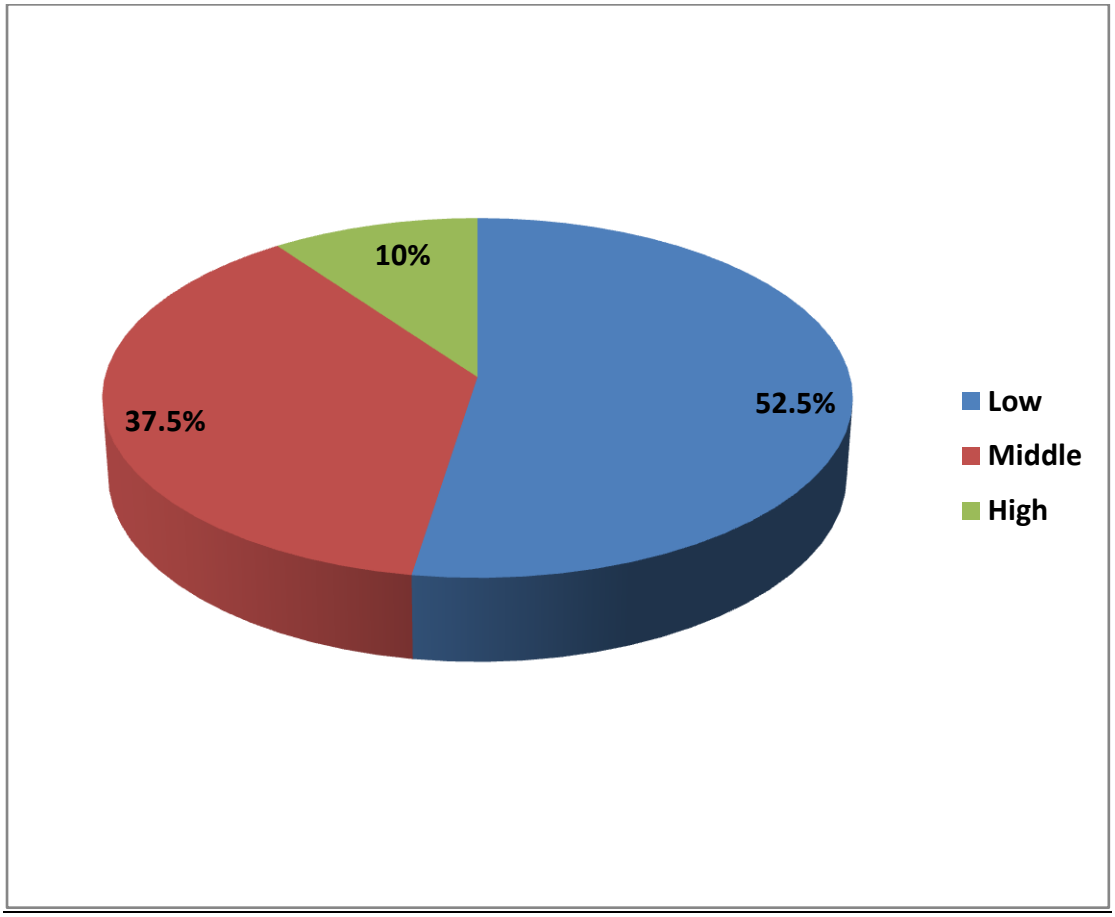


Table No. 4

Distribution of patients according to Age at Marriage

S No.	Age at Marriage	No. of Patients	Percentage (%)
1	<15 yrs	139	34.75
2	16 – 19 yrs	212	53
3	20 -24 yrs	49	12.25
	Total	400	100

Majority of the patients (53%) got married between 16 and 19 years , 34.75% patients got married before the age of 15 years and only 12.25% got married between 20 and 24 years.

Graph 4 : Distribution of Patients According to Age at Marriage

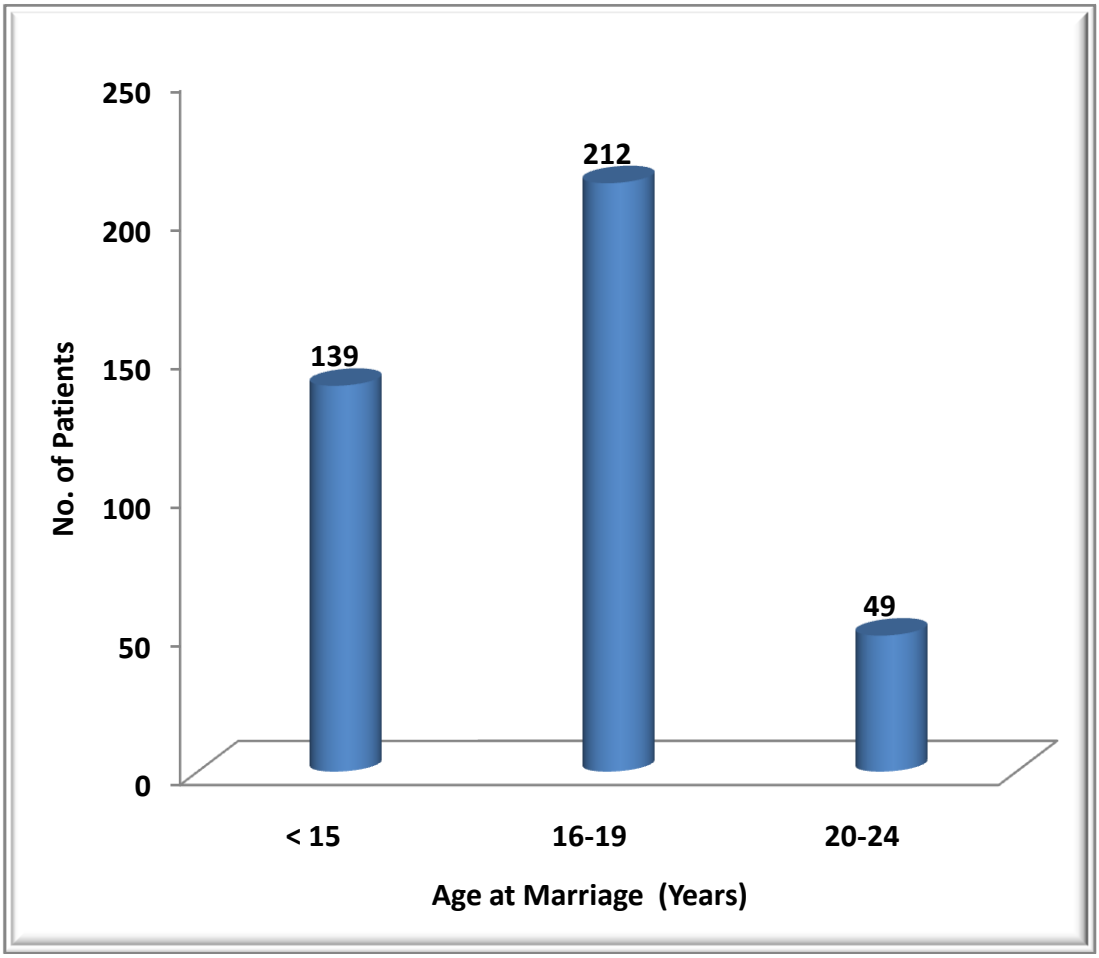


Table No. 5

Distribution of patients according to Religion

S No.	Religion	No. of Patients	Percentage (%)
1	Hindu	380	95
2	Muslim	20	5
	Total	400	100

95% of patients were Hindus while Muslims were only 5%.

Graph 5 : Distribution of Patients According to Religion

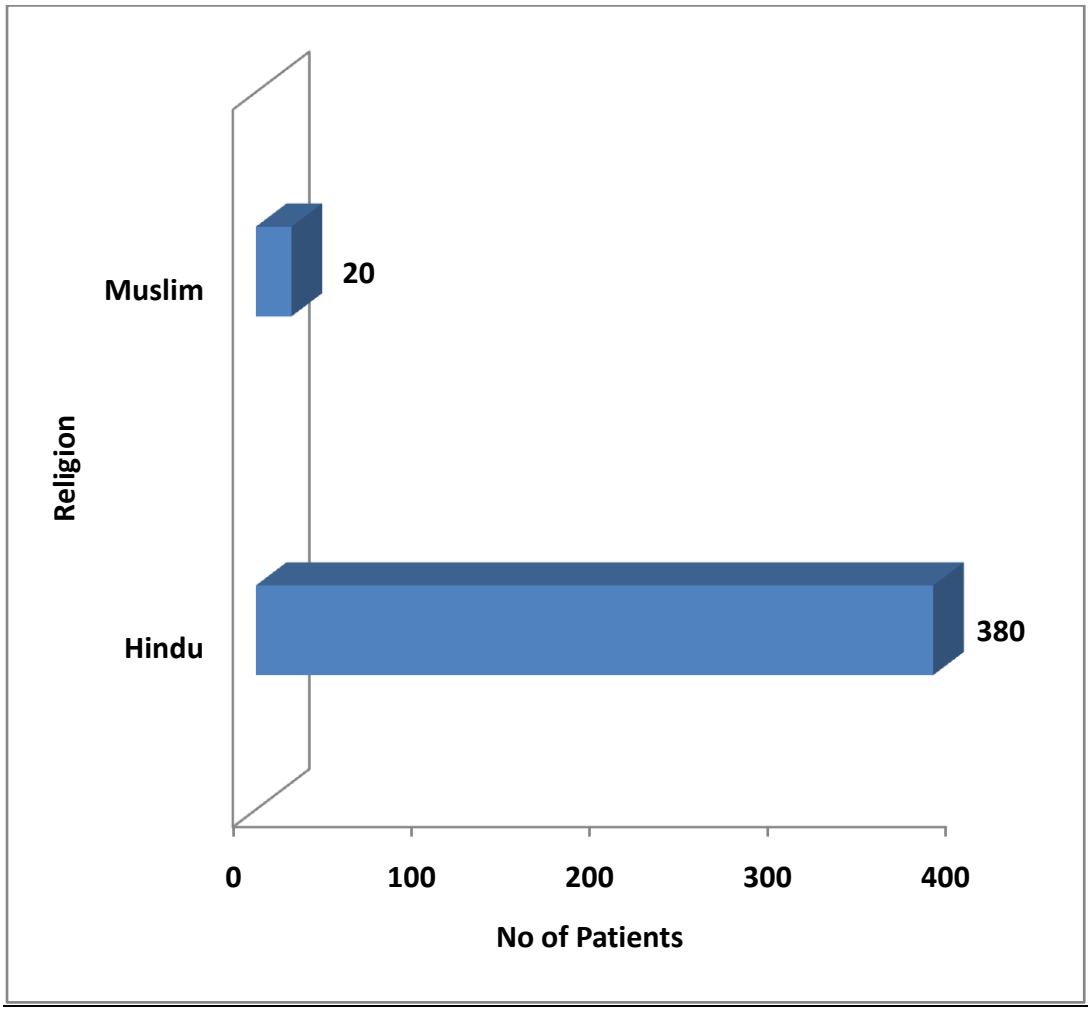


Table No. 6

Distribution of patients according to Literacy

S No.	Literacy	No. of Patients	Percentage (%)
1	Illiterate	216	54
2	Literate	184	46
	Total	400	100

54% of the patients were Illiterate and 46% were Literate

Graph 6 : Distribution of Patients According to Literacy

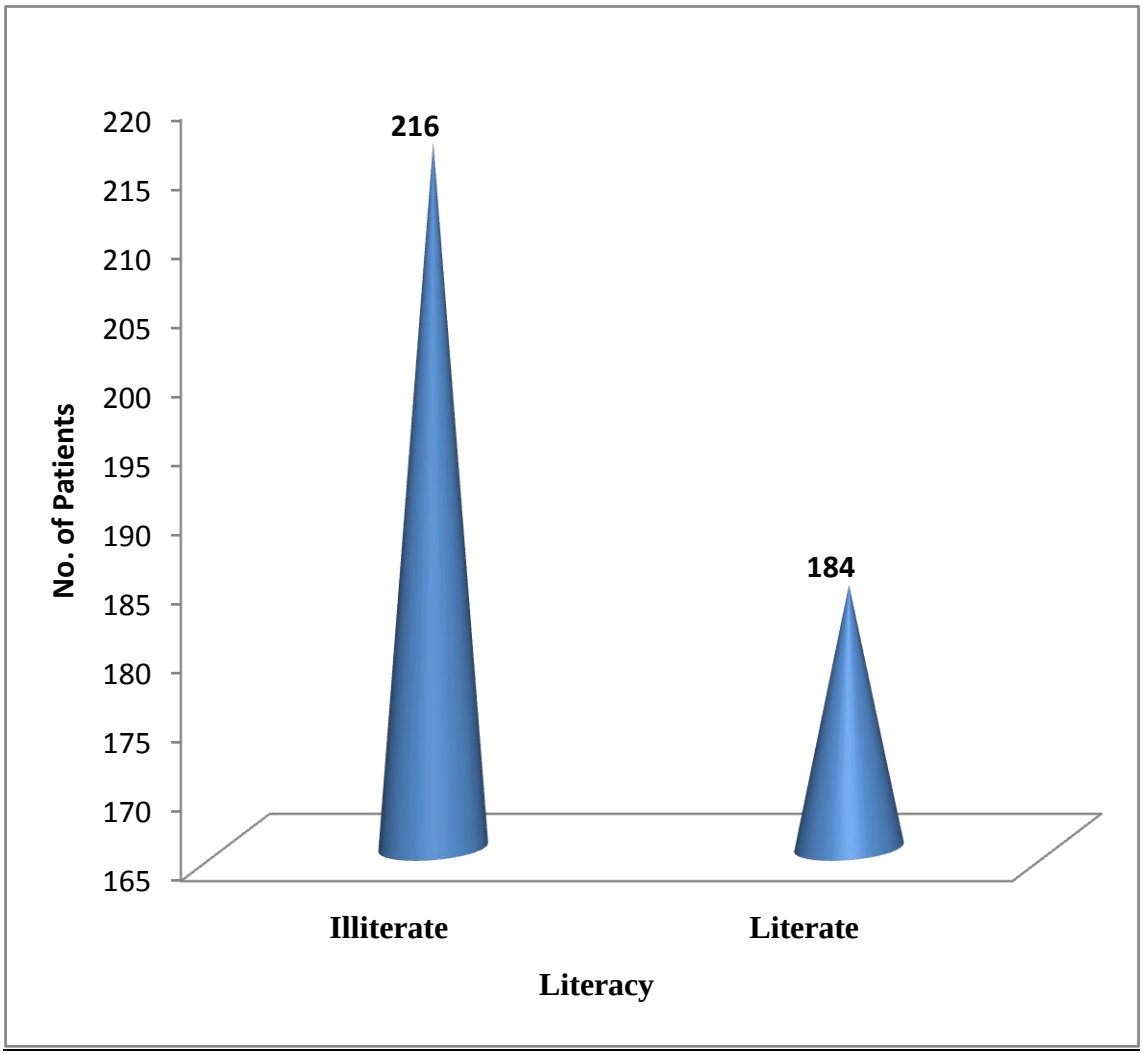


Table No. 7

Distribution of patients according to Presenting Symptoms

S No.	Presenting Symptoms	No. of Patients	Percentage (%)
1	White discharge P/V	161	40.25
2	Irregular bleeding P/V	72	18
3	Pain abdomen	36	9
4	U –V descent	35	8.75
5	Lump abdomen	11	2.75
6	Asymptomatic	30	7.5
7	Others	55	13.75
	Total	400	100

Majority of the patients presented with white discharge per vaginum i.e 40.25%. Irregular bleeding P/V in 18%, Pain abdomen in 9%, U –V descent in 8.75%, Lump abdomen in 2.75% patients while 7.5% were Asymptomatic while 13.75% had other non specific symptoms like burning micturition, backache, itching at vulva etc.

Graph 7 : Distribution of Patients According to Presenting Symptoms

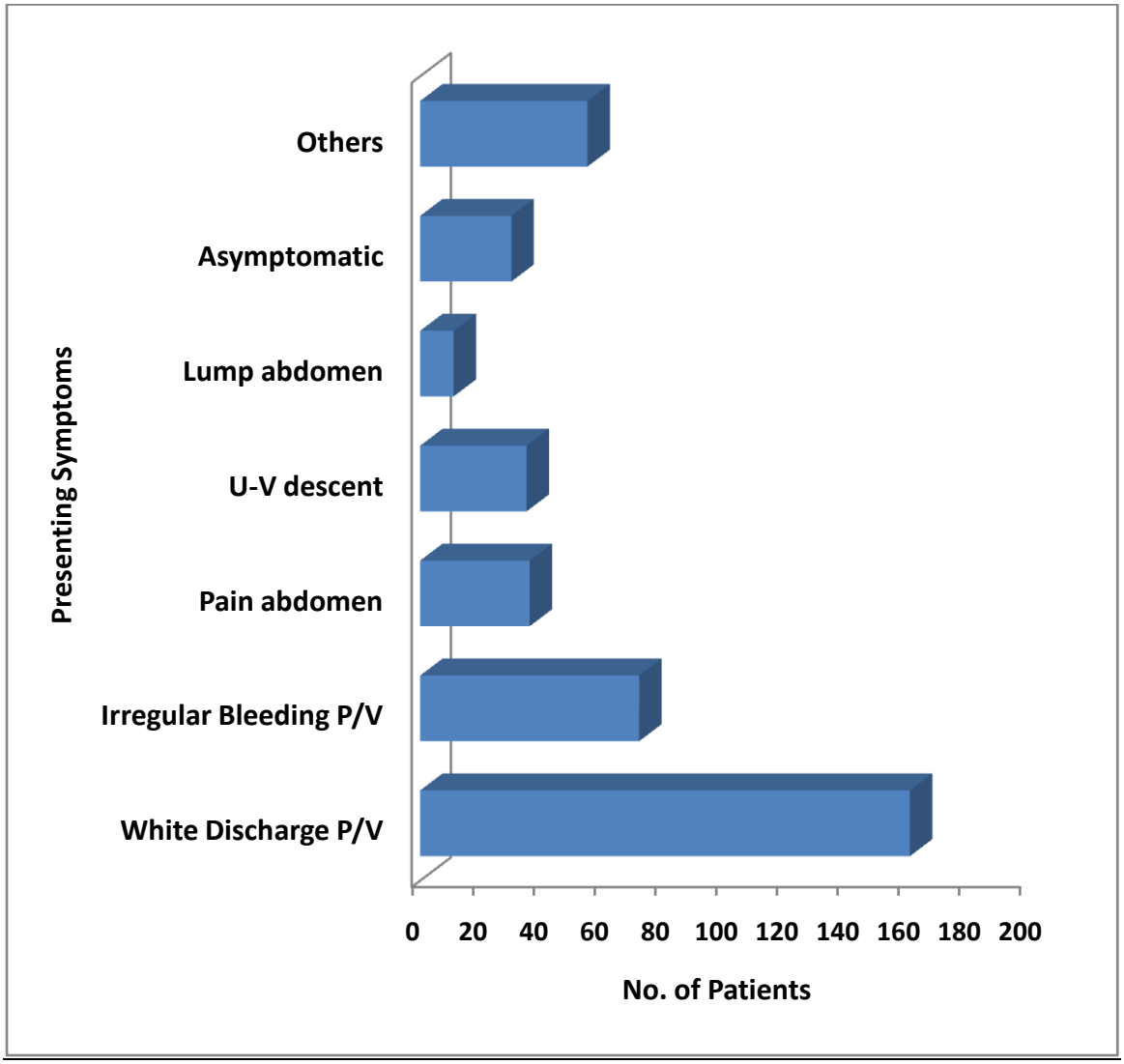


Table No. 8

Distribution of patients according to Clinical Impression of Cervix

S No.	Clinical Impression of Cervix	No. of Patients	Percentage (%)
1	Healthy	63	15.75
2	Atrophic	16	4
3	Erosion	95	23.75
4	Cervicitis	151	37.75
5	Hypertrophy	60	15
6	Polyp	4	1
7	others	11	2.75
	Total	400	100

Majority of the patients had chronic cervicitis i.e 37.75% and cervical erosion in 23.75% as the clinical finding. Cervical hypertrophy was found in 15%, healthy cervix I 15.75%, atrophic in 4 %, cervical polyp in 1%. 2.75% had other non specific findings like prolapse or growth.

Graph 8 : Distribution of Patients According to Clinical Impression of Cervix

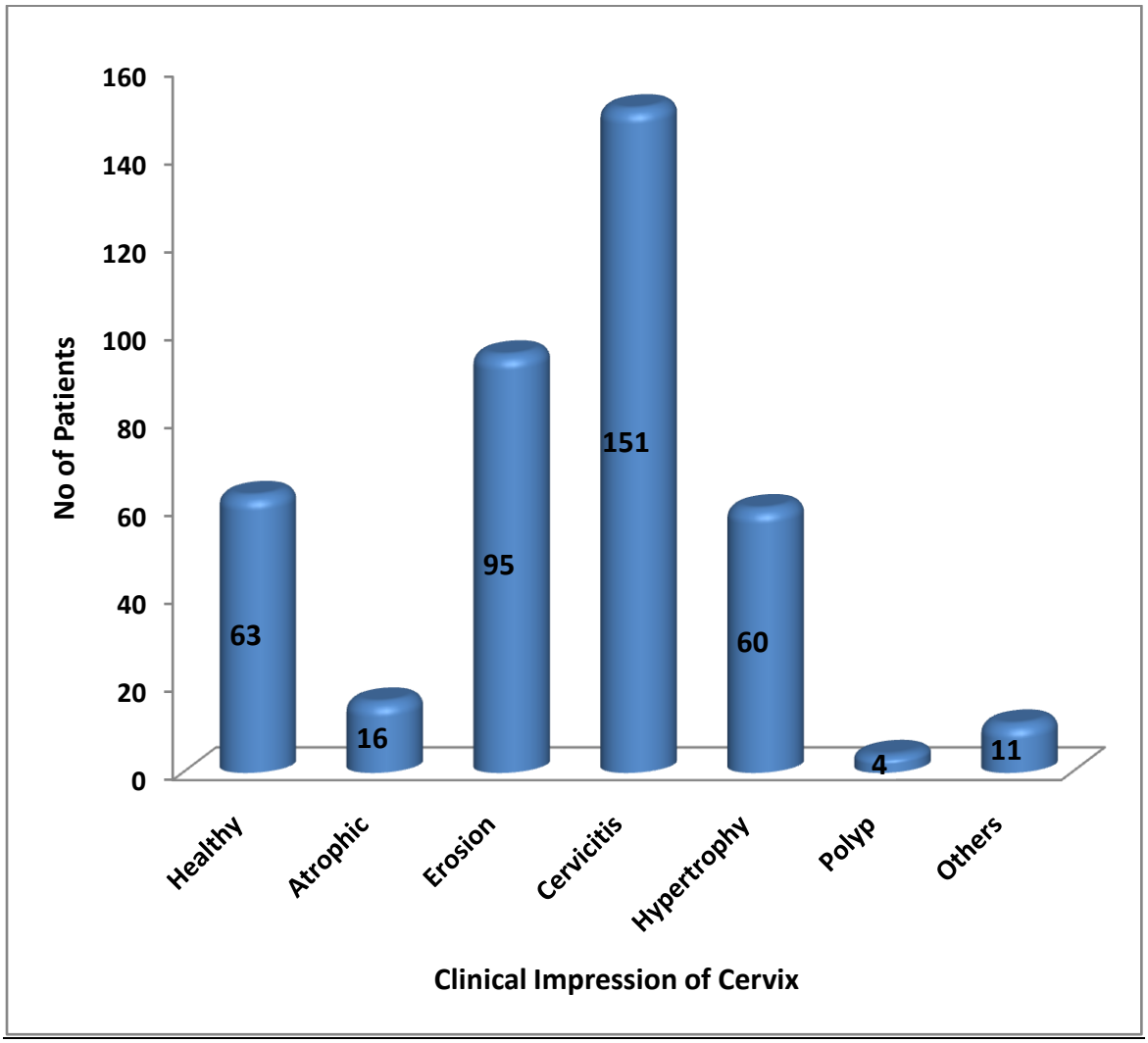


Table No. 9

Distribution of patients according to Types of Cervical Cytology Smears

S No.	Types of Smears	No. of Patients	Percentage (%)
1	Normal	22	5.5
2	Inflammatory	345	86.25
3	LSIL	13	3.25
4	HSIL	15	3.75
5	Invasive Carcinoma	5	1.25
	Total	400	100

Above table shows Normal smears in 5.5% patients, Inflammatory smears in 86.25%, LSIL in 3.25%, HSIL in 3.75% and Invasive Carcinoma in 1.25 % patients

Graph 9 : Distribution According to Types of Cervical Cytology Smears

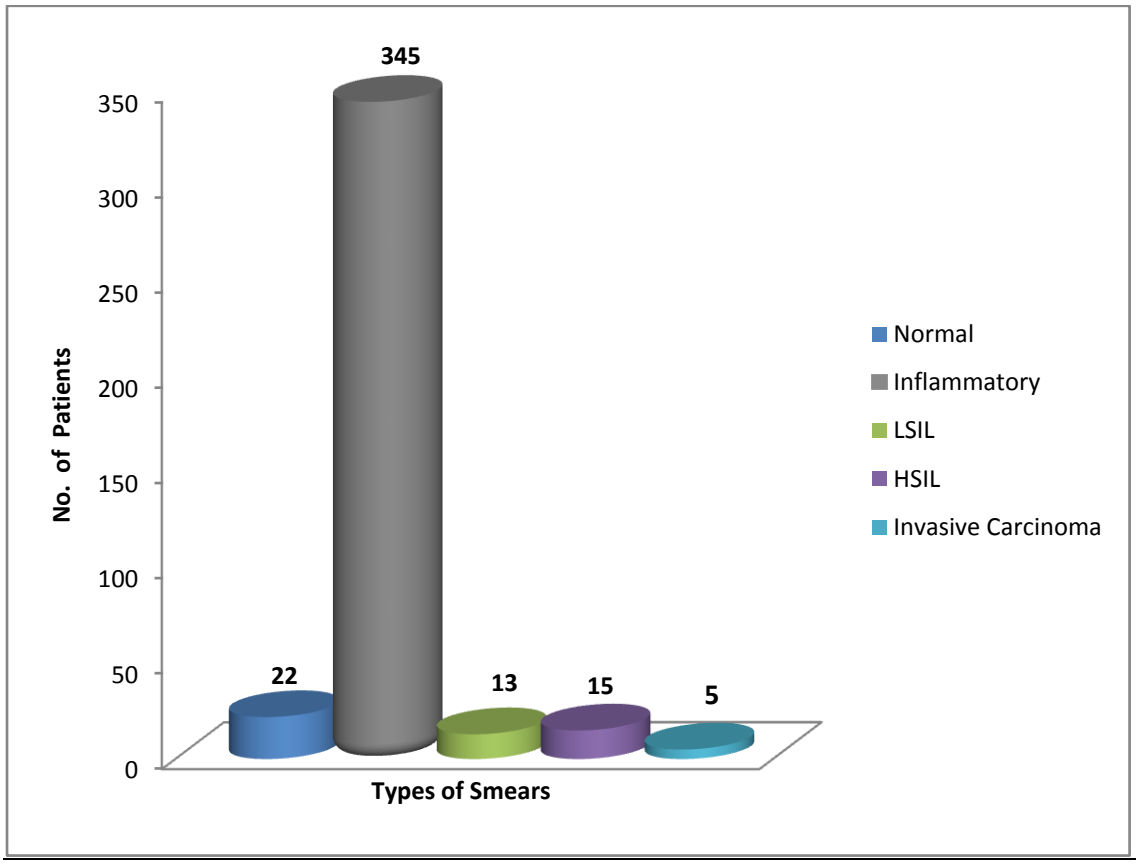


Table No. 10

Cytological correlation with Age of patients

SNo	Age in Years	No. of Pts.	Normal	Inflammatory	LSIL	HSIL	Invasive Carcinoma
1	20 – 29	67	3(4.47%)	64 (95.53%)	-	-	-
2	30 – 39	138	9(6.52%)	124(89.85%)	2(1.45%)	3(2.17%)	-
3	40 – 49	118	5(4.24%)	97(82.2%)	8(6.78%)	7(5.93%)	1(0.84%)
4	50 – 60	77	5(6.49%)	60(77.92%)	3(3.89%)	5(6.49%)	4(5.19%)
	Total	400	22	345	13	15	5

Majority of Normal smears were seen in 30 – 39 years, Inflammatory smears in 20 – 29 years (95.5%) . LSIL in 40 – 49 years (6.78%). HSIL and Malignancy was found in 50 – 60 years i.e 6.49% and 5.19% respectively.

Graph 10 : Cytological Correlation with Age of Patients

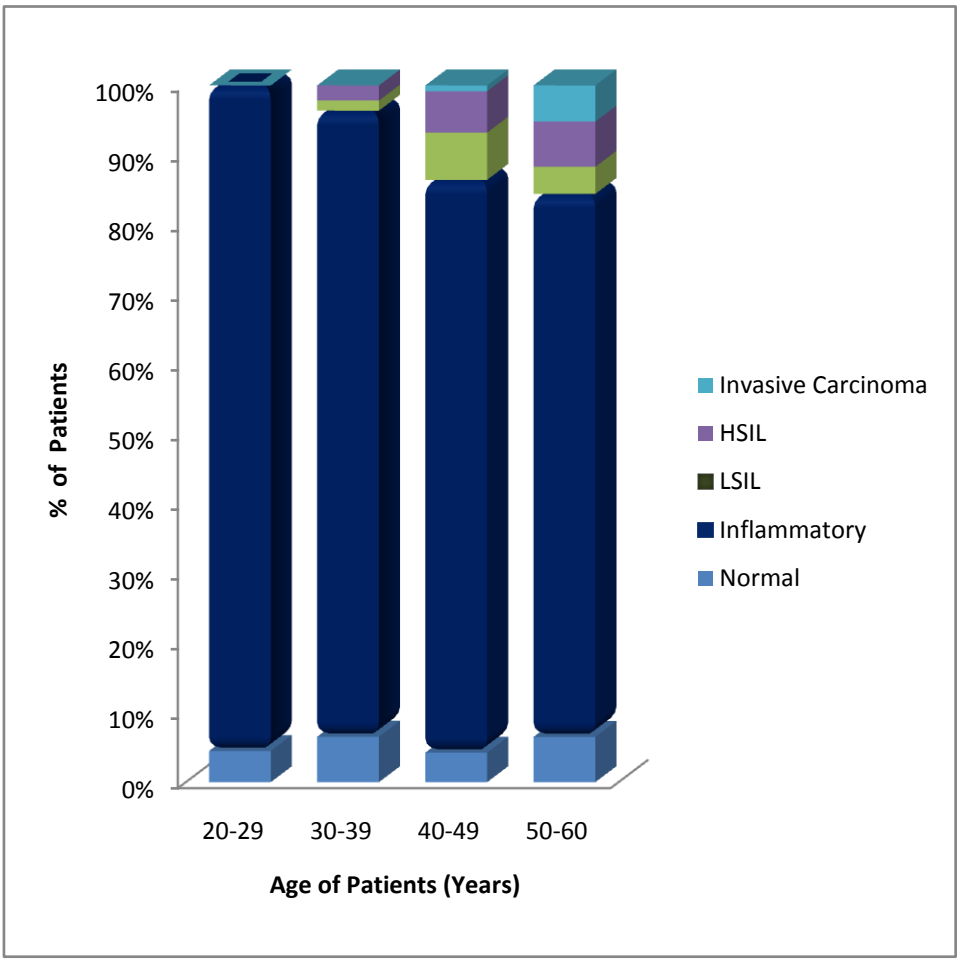


Table No. 11

Cytological correlation with Parity of patients

SNo	Parity	No. of Pts.	Normal	Inflammatory	LSIL	HSIL	Invasive Carcinoma
1	Nulliparous	8	2(25%)	6(75%)	-	-	-
2	1 – 2	132	7(5.3%)	120(90.9%)	4(3.03%)	1(0.75%)	-
3	3 – 5	198	12(6.06%)	165(83.3%)	8(4.04%)	11(5.55%)	2(1.01%)
4	>5	62	1(1.61%)	54(87.09%)	1(1.61%)	3(4.83%)	3(4.83%)
	Total	400	22	345	13	15	5

Maximum no. of Normal smears were seen in Nulliparous (25%), Inflammatory smears in parity 1 -2 (90.9%), LSIL and HSIL in parity 3 – 5 (4.04% and 5.55% respectively) and Malignancy in parity >5 (4.83%).

Graph 11 : Cytological Correlation with Parity of Patients

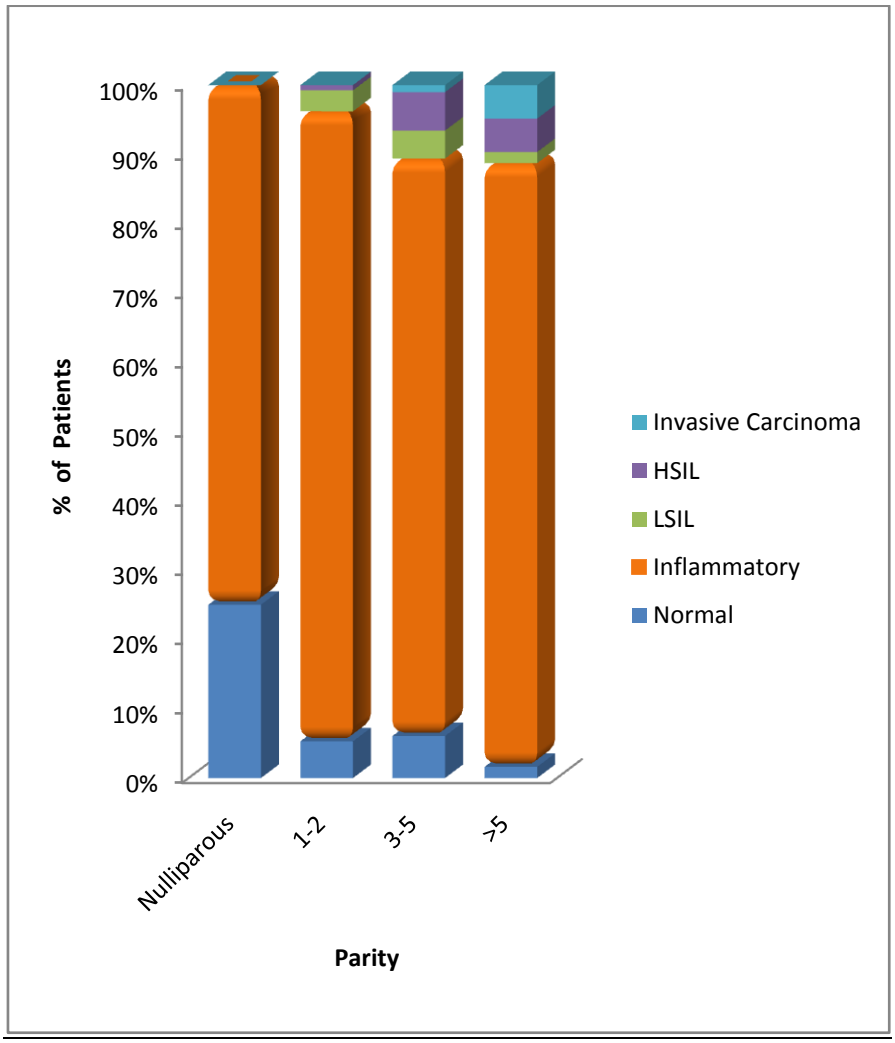


Table No. 12

Cytological correlation with Socio economic status of patients

SNo.	S-E Status	No. of Pts.	Normal	Inflammatory	LSIL	HSIL	Invasive Carcinoma
1	Low	210	11(5.23%)	175(83.3%)	9(4.28%)	11(5.23%)	4(1.90%)
2	Middle	150	8(5.33%)	134(89.3%)	3(2%)	4(2.66%)	1(0.66%)
3	High	40	3(7.5%)	36(90%)	1(2.5%)	-	-
	Total	400	22	345	13	15	5

Majority of Normal smears were seen in High socioeconomic status i.e. 7.5%, Inflammatory in High and Middle socioeconomic status; approx 90%, LSIL, HSIL and Malignancy were found in low socioeconomic status i.e 4.28%, 5.23% and 1.9% respectively.

Graph 12 : Cytological Correlation with Socio Economic Status

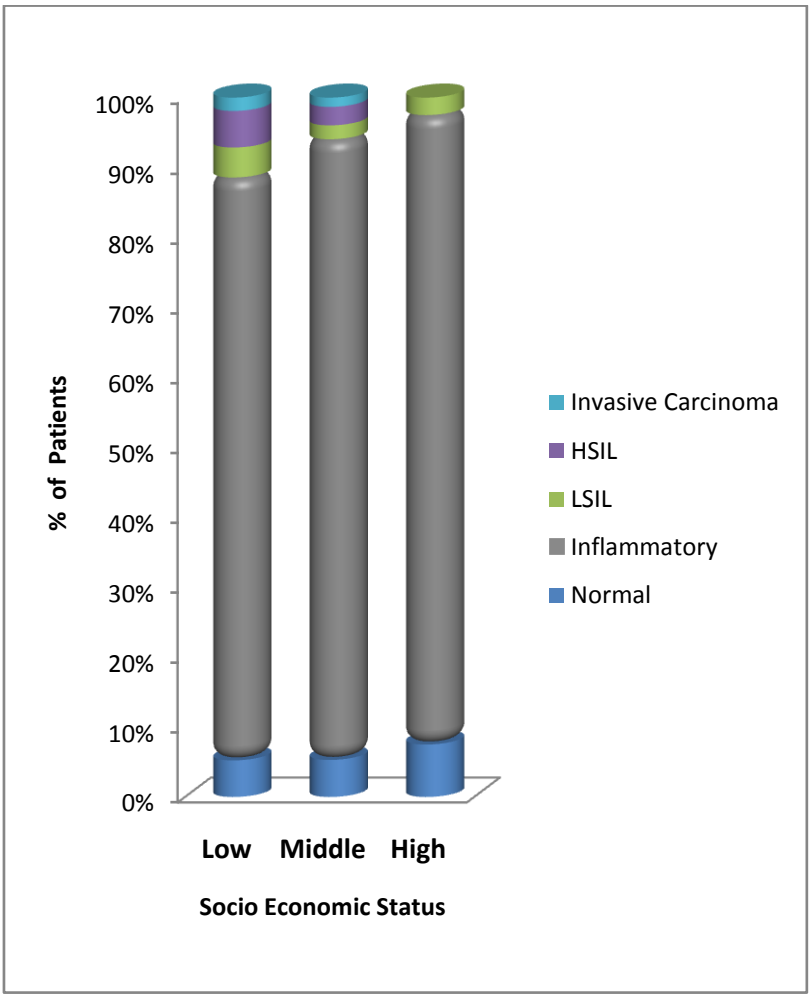


Table No. 13

Cytological correlation with Age at marriage

SNo.	Age at Marriage	No. of Pts.	Normal	Inflammatory	LSIL	HSIL	Invasive Carcinoma
1	<15 yrs	139	7(5.03%)	113(81.29%)	7(5.03%)	9(6.47%)	3(2.16%)
2	16 – 19yrs	212	8(3.77%)	192(90.56%)	4(1.88%)	6(2.83%)	2(0.94%)
3	20 -24 yrs	49	7(14.2%)	40(81.6%)	2(4.08%)	-	-
	Total	400	22	345	13	15	5

Majority of Normal smears were seen in women married after 20 years, Inflammatory in women married between 16 – 19 years of age, LSIL, HSIL and Malignancy were found in women married before the age of 15 years i.e 5.03%, 6.47% and 2.16% respectively

Graph 13 : Cytological Correlation with Age at Marriage

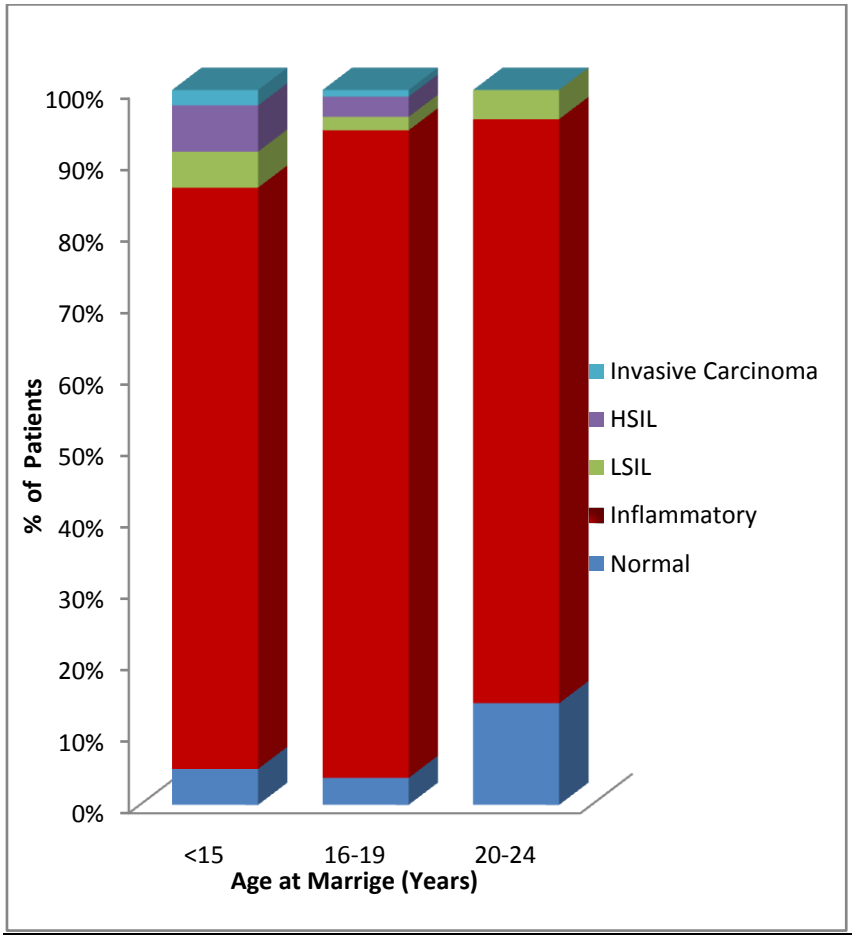


Table No. 14

Cytological correlation with Religion

SNo.	Religion	No. of Pts.	Normal	Inflammatory	LSIL	HSIL	Invasive Carcinoma
1	Hindu	380	22(5.8%)	328(86.3%)	12(3.16%)	14(3.68%)	4(1.05%)
2	Muslim	20	-	17(85%)	1(5%)	1(5%)	1(5%)
	Total	400	22	345	13	15	5

Majority of Normal and Inflammatory smears were seen in Hindu religion. LSIL, HSIL and Malignancy were found in Muslim religion i.e. 5% each.

Graph 14 : Cytological Correlation with Religion

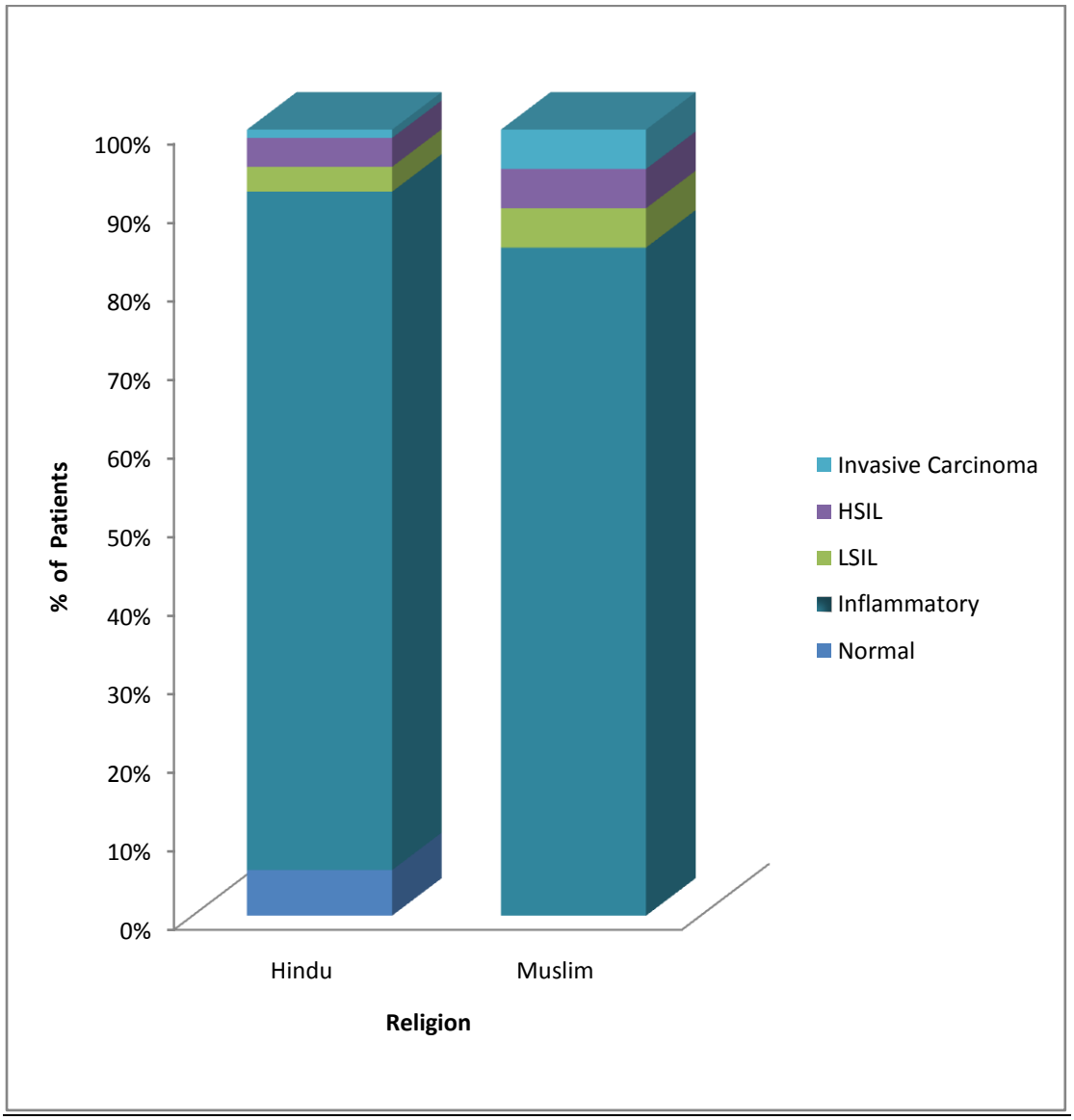


Table No. 15

Cytological correlation with Presenting Symptoms

SNo.	Presenting Symptoms	No. of Pts.	Normal	Inflammatory	LSIL	HSIL	Invasive Carcinoma
1	White discharge P/V	161	1(0.62%)	136(84.5%)	9(5.6%)	10(6.21%)	5(3.1%)
2	Irregular bleeding P/V	72	2(2.78%)	63(87.5%)	3(4.16%)	4(5.55%)	-
3	Pain abdomen	36	3(8.33%)	31(86.1%)	1(2.77%)	1(2.77%)	-
4	U –V descent	35	-	35(100%)	-	-	-
5	Lump abdomen	11	-	11(100%)	-	-	-
6	Asymptomatic	30	11(36.7%)	19(63.3%)	-	-	-
7	Others	55	5(9.1%)	50(90.9%)	-	-	-
	Total	400	22	345	13	15	5

Majority of Normal smears were seen in asymptomatic women, Inflammatory in patients with white discharge per vaginum, LSIL and HSIL were found in patients with white discharge per vaginum 5.6% and 6.21% respectively and irregular PV bleeding i.e 4.16% and 5.55% respectively and Malignancy in patients with white discharge per vaginum i.e in 3.1% patients.

Graph 15 : Cytological Correlation with Presenting Symptoms

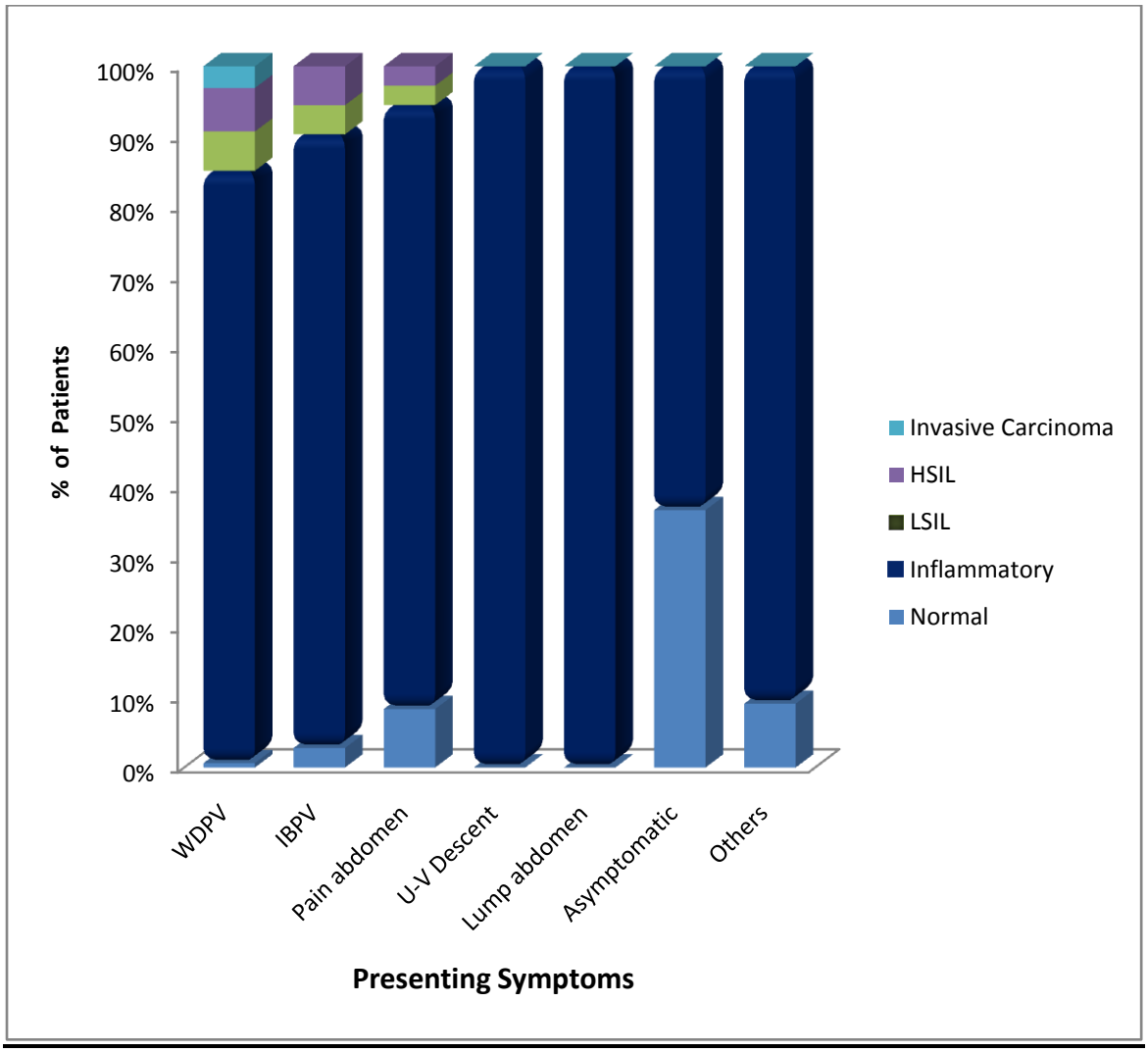


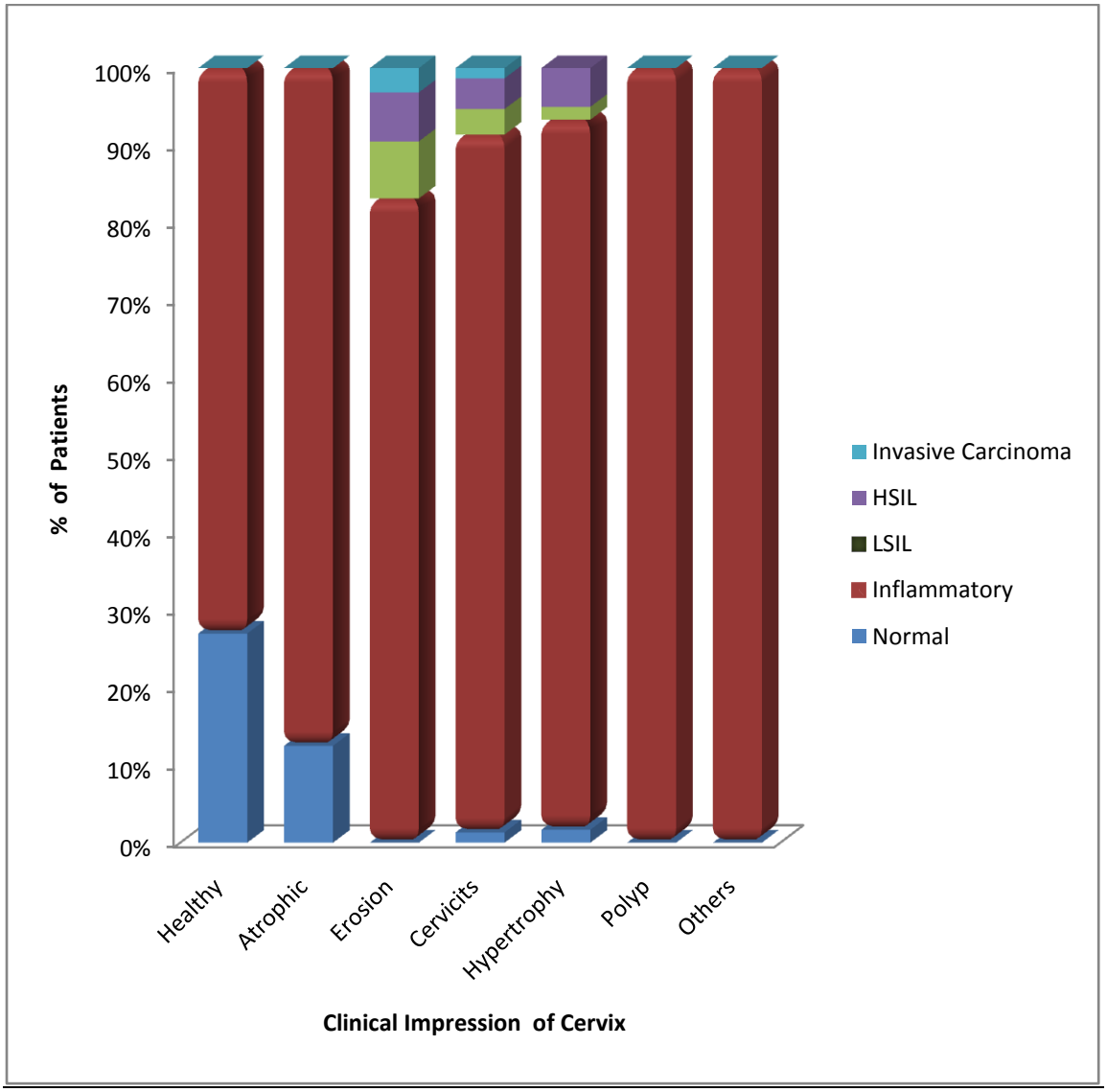
Table No. 16

Cytological correlation with Clinical Impression of Cervix

SNo.	Clinical Impression of Cervix	No. of Pts.	Normal	Inflammatory	LSIL	HSIL	Invasive Carcinoma
1	Healthy	63	17(27%)	46(73%)	-	-	-
2	Atrophic	16	2(12.5%)	14(87.5%)	-	-	-
3	Erosion	95	-	79(83.15%)	7(7.36%)	6(6.31%)	3(3.15%)
4	Cervicitis	151	2(1.32%)	136(90%)	5(3.3%)	6(3.96%)	2(1.32%)
5	Hypertrophy	60	1(1.66%)	55(91.66%)	1(1.66%)	3(5%)	-
6	Polyp	4	-	4(100%)	-	-	-
7	others	11	-	11(100%)	-	-	-
	Total	400	22	345	13	15	5

Majority of Normal smears were found to be in patients with Healthy looking cervix. Majority of LSIL, HSIL and malignancy were found in patients with Erosion (7.36%, 3.61% and 3.15% respectively) and Chronic cervicitis (3.3%, 3.96% and 1.32% respectively).Inflammatory smears were seen with all types of cervical lesions

Graph 16 : Cytological Correlation with Clinical Impression of Cervix



DISCUSSION

In this study, 400 women who attended the Gynaecology out patient department at Shri B.M.Patil Medical college Hospital and Research Centre, Bijapur, from October 2008 to July 2010 were studied to know the pattern of cervical cytology by Papanicolaou smear and its correlation with various parameters

Majority of women were uneducated from low socio economic group from peripheral villages.

The results are discussed as follows

Distribution of patients according to Age

The age of the patients varied from 20 to 60 years. The largest number of patients i.e. 34.5% belonged to the age group 30 to 39 years. However majority of the patients i.e 64% were between 30 to 49 years of age.

Similar observations were made by other authors as follows

Chakravarthy et al (1975)[16] – 32.09%

Prabhakar et al (1980)[67] – 38.8%

V. K. Singh (1984)[84] - 34.9%

Mukherjee et al (1984)[58] – 34%

Pankaj Desai et al (1992)[23] – 40.57%

Distribution of patients according to parity

When parity was studied 49.5% of the patients had parity between 3 and 5 while 33% had parity either 1 or 2. 2% were Nulliparous. 15.5% patients had parity more than 5.

Similar observations were made by

Mukherjee et al (1984)[58] – 35%

V.K.Singh (1984)[84] – 44.1%

Pankaj Desai et al (1992)[23] – 57.28%

Distribution of patients according to Socioeconomic status

Most of the patients studied were from the low socio-economic group, contributing 52.5% patients, while 37.5% were from middle class. High income group comprised only 10% patients. It was because study population was mainly from rural areas surrounding Bijapur city.

Similar observations were made by

V.K.Singh[84] (1984) – 51.2%

Distribution of patients according to Age at Marriage

Majority of the patients i.e., 53% got married between 16 and 19 years, 34.75% patients got married before the age of 15 years and only 12.25% got married between 20 and 24 years. It was because of high illiteracy rate and low socioeconomic profile.

Distribution of patients according to Religion

95% of patients were Hindus while Muslims were only 5%.

Distribution of patients according to Literacy

Majority i.e. 54% of the patients were illiterate

Distribution of patients according to Presenting Symptoms

Majority of the patients presented with white discharge per vaginum i.e., 40.25%.

Bleeding P/V was seen in 18% which included Menorrhagia, Polymenorrhoea, Irregular menses, Oligomenorrhoea, Postcoital bleeding and Postmenopausal bleeding.

Pain abdomen was seen in 9%, U –V descent in 8.75%, Lump abdomen such as fibroid uterus and ovarian tumour was seen in 2.75% patients while 7.5% were Asymptomatic.

Last group i.e others constituted 13.75% cases. These were having symptoms like urinary disturbances, itching over vulva, backache etc.

Mukherjee C et al (1984)[58] reported abdominal pain in 19% and contact bleeding in 2% patients.

Distribution of patients according to Clinical Impression Of Cervix

Majority of the patients had Chronic Cervicitis i.e 37.75% and Cervical Erosion in 23.75% as the clinical finding. Cervical hypertrophy was found in 15%. Healthy cervix was found in 15.75%.

Cervix was atrophic in 4 % as they were postmenopausal and Cervical polyp in 1%.

Similar observations were made by Mukherjee C et al (1984)[58]

Distribution of patients according to Type of Smears

In 5.5% patients smears were normal. Majority of smears were Inflammatory i.e. 86.25%. In all LSIL was seen in 3.25%, HSIL in 3.75%. patients. Invasive Carcinoma was seen in 1.25 % patients.

Similar incidence of cervical cytology were found in other studies.

Rohatgi et al. (1990)

Pralhad Kushtagi et al. (1995)

Rao S et al (1995)[7]

An attempt was made to evaluate the relative incidences of different types of smears in relation to age, parity, socioeconomic status, age at marriage, religion, subjective symptoms and clinical impression of cervix.

Cytological correlation with Age of patients

Majority of Normal smears were seen in 30 – 39 years, Inflammatory smears in 20 – 29 years (95.5%) . LSIL in 40 – 49 years (6.78%). HSIL and Malignancy was found in 50 – 60 years i.e 6.49% and 5.19% respectively.

Chakravarthy et al (1975)[16] found mild dysplasia in 31 – 40 years, moderate to severe dysplasia 41 – 50 years and squamous cell carcinoma in 51 – 60 years.

Saraiya U et al (1987)[78] found mean age of 32.5years, 37.5 years and 44.2 years for mild, moderate dysplasia and squamous cell carcinoma.

Pankaj Desai et al. (1992)[23] made observation of mean age of 37.5 years for LSIL, 41 years for HSIL and 50.8 years for squamous cell carcinoma

Cytological correlation with Parity of patients

Maximum no. of Normal smears were seen in Nulliparous (25%), Inflammatory smears in parity 1 -2 (90.9%), LSIL and HSIL in parity 3 – 5 (4.04% and 5.55% respectively) and Malignancy in parity >5 (4.83%).

Similar observations were made by Chakravarthy et al (1975)[16]

Susheela Rathee et al. (1984)[71] found that dysplasia was common in grandmultipara and none of the patients having dysplasia was a nullipara.

Pankaj Desai et al. (1992)[23] detected maximum number of LSIL, HSIL and Malignancy in multiparous women.

Cytological correlation with Socioeconomic status

Majority of Normal smears were seen in High socioeconomic status i.e 7.5% , Inflammatory in High and Middle socioeconomic status;approx 90%, LSIL, HSIL and Malignancy were found in low socioeconomic status i.e 4.28%, 5.23% and 1.9% respectively.

Susheela Rathee et al. (1984)[71] found that majority of premalignant and malignant lesions belong to poor socioeconomic status.

Padmanabhan et al., (1990) found that 92% of HSIL and malignancy were found in patients of low socioeconomic status.

Cytological correlation with Age at marriage

Majority of Normal smears were seen in women married after 20 years, Inflammatory in women married between 16 – 19 years of age, LSIL, HSIL and Malignancy were found in women married before the age of 15 years i.e 5.03%, 6.47% and 2.16% respectively

Rotkin and King (1962) reported that women who began coitus between the ages 15-17 years, twice have cervical cancer than in the control group.

Christopherson (1967) in his study found that 61% of invasive and 57% of carcinoma insitu cases had first coitus at less than 17 years of age.

Wahi et al., (1969) found that 84.2% of women with dysplasia got married within 16 years of age.

Susheela Rathee (1984)[71] reported the mean age of first coitus as 16.6 years in patients with cervical dysplasia.

Duration of Martial Life

Purandare et al., (1972) said that the incidence of dysplasia doubles in the group married for 10 years or more.

Padmanabhan et al., (1990) encountered highest incidence of dysplasia in women who were married for 20-40 years. In the present study maximum number cases were married more than 15 years.

Cytological correlation with the Religion

Majority of Normal and Inflammatory smears were seen in Hindu religion. LSIL, HSIL and Malignancy were found in Muslim religion i.e. 5% each, may be because of small sample size of Muslims.

Wydnes et al., (1954) reported a higher incidence of disease in Hindus than Muslims.

Kmet et al., and Levin et al., found that cervical carcinoma is relatively uncommon in Muslims and in Jews.

Cytological correlation with Presenting Symptoms

Majority of Normal smears were seen in asymptomatic women, Inflammatory in patients with white discharge per vaginum, LSIL and HSIL were found in patients with white discharge per vaginum 5.6% and 6.21% respectively and irregular PV bleeding i.e 4.16% and 5.55% respectively and Malignancy in patients with white discharge per vaginum i.e in 3.1% patients.

Chakravarthy et al (1975)[16] found menstrual irregularity as most common symptom in dysplasia and post coital bleeding in malignancy.

Pankaj Desai et al. (1992)[23] found Leucorrhoea as the most common symptom in patient with SIL and Post Coital Bleeding in patients with squamous cell carcinoma.

Cytological correlation with Clinical impression of Cervix

Majority of Normal smears were seen in Healthy looking cervix. Majority of LSIL, HSIL and malignancy were found in patients with Erosion (7.36%, 3.61% and 3.15% respectively) and Chronic cervicitis (3.3%, 3.96% and 1.32% respectively). Inflammatory smears were seen with all types of cervical lesions.

Wahi et al., (1969) found that 65.5% patient with dysplasia had cervical erosion and 16.5% in normal looking cervix.

Purandare et al., (1973) found most dysplasias in women with cervicitis and erosion.

Padmanabhan et al., (1990) found that 31.25% patients with SIL had erosion and 23.75% had hypertrophy.

Sunanda Rao et al., (1995), cervical erosion and infection were common and accounted for 40-50% of abnormalities.

Hence, there is no definite clinical impression, which can lead us in suspect the cases of dysplasia and carcinoma insitu, thus stressing the importance of cytological examination in detecting abnormal cervical intraepithelial lesion.

SUMMARY

400 women of age 20 to 60 years were studied to know the pattern of cervical cytology by Papanicolaou smear Reporting of the smear was done by Bethesda system.

The incidence of premalignant and malignant lesions of the cervix was 8.25 % (7% premalignant and 1.25% malignant). Maximum number of women screened were in age group of 30 - 39 years (34.5%). 49.5% were of parity 3 – 5. 95% of women were Hindus. 52.5% of women were from Low socioeconomic class and 54% were illiterate. Most of the Women got married at less than 19 years of age.

Most common presenting complaint was discharge per vagina (40.25%) followed by menstrual irregularity (18%). 15.75 % of cervix were healthy, 23.75% had erosion, 37.75% had hypertrophy.

Cervical cytology was normal in 5.5%, inflammatory in 86.25%, LSIL in 3.25%, HSIL in 3.75% and squamous cell carcinoma in 1.25%.

Maximum number of patients with LSIL were in the age group of 40 – 49 years and HSIL and Squamous cell carcinoma occurred in the age group of 50-60 years.

LSIL and HSIL were found in parity 3 – 5 (4.04% and 5.55% respectively) whereas malignancy was found in parity >5 (4.83%). Majority of LSIL, HSIL and malignancy were found in low socioeconomic status i.e 4.28%, 5.23% and 1.9% respectively, in muslim religion i.e. 5% each and in women married before the age of 15 years i.e 5.03%, 6.47% and 2.16% respectively

Majority of LSIL and HSIL were found in patients with white discharge per vaginum 5.6% and 6.2% respectively and irregular PV bleeding i.e 4.2% and 5.5% respectively and Malignancy in patients with white discharge per vaginum i.e in 3.1% patients.

Majority of LSIL, HSIL and malignancy were found in patients with Cervical erosion (7.36%, 3.61% and 3.15% respectively) and Chronic cervicitis (3.3%, 3.96% and 1.32% respectively).

CONCLUSION

The Papanicolaou procedure is the most simple, safe, practical and cost effective method for early detection of cervical cancer and its precursors and that if the precursors are treated the subsequent development of invasive cancer is eliminated or reduced.

Although screening with colposcopy and cervicography has been reported periodically, such an approach tend to over diagnose the immature squamous metaplasia with optimal magnification. The technique has a high false positive rate, not cost effective and therefore offers little in a screening program.

The Papanicolaou procedure is a screening test, not a diagnostic test, hence abnormalities of the smear should be confirmed histologically by biopsy. The false negative rate of Papsmear emphasizes that for its successful use it is essential that screening should be done yearly or every 2 years to reduce the chance of missing an early lesion. As the progression from preinvasive to invasive carcinoma is slow, more frequent screening appears to offer an effective way of detecting these changes early. Hence the Papsmear has become the goldstandard for screening programs.

Hence efforts must be directed towards education of women regarding cervical cancer in order to promote awareness of malignancy and to motivate them for cytological screening in the future.

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CASE PROFORMA

SI No OPD/IPD No

Name Age

Address Religion

Education Socio economic status

Date of Examination

Chief Complaints

1. Asymptomatic
2. White discharge per vaginum
3. Irregular vaginal bleeding
4. Pain abdomen
5. Others
    a) Backache
    b) Mass per vaginum
    c) Urinary complaints etc.

Menstrual History

1. Age at menarche
2. Past MC
    a) Duration
    b) Flow
    c) Regular / Irregular
    d) Dysmenorrheal
    e) Clots

3. Present MC
4. LMP

Obstetric History

1. Age at marriage
2. No. of children
3. Last child birth
4. Sterilization

Past History

1. Cauterization, Biopsy, Conisation
2. History of OCP/IUCD

Family History

History of Malignancy

Personal History

GPE

Pulse

BP

Temp.

Pallor, Edema

Systemic Examination

1. CVS
2. RS
3. Per Abdomen
4. External genitalia
5. P/S : Cervix : Erosion, Congestion, Ectropion, Bleeding etc

6. P/V : Cervix : bleeds on touch, mobile/fixed

   Uterus : AV/RV/NS/Bulky/Firm/Soft/Mobile/Fixed

   Fornix : Tender/Non tender

7. P/R : Induration

Clinical Diagnosis

Investigations

1. Blood : Hb%

   TC

   DC

   ESR

   RBS(if needed)

2. Urine : albumin

   Sugar

   Microscopy

3. HIV

Cytology report

It will be reported according to Bethesda System (2001)[20,68]

CONSENT FORM

RESEARCH INFORMED CONSENT FORM

Title of Project : **"PATTERN OF CERVICAL CYTOLOGY BY PAP SMEAR IN PATIENTS AGED 20 – 60 YEARS"**

Guide : **Dr. S. V. Reddy MD.**
Professor & HOD, Department of OBG

Co Guide : **Dr. S. B. Hipparagi MD.**
Professor, Department of Pathology

P.G. Student : **Dr. Shilpi Aggarwal**

PURPOSE OF RESEARCH:

I have been informed that the present study will assess the incidence of different specified outcomes of Pap smear and its correlation with age, parity etc

PROCEDURE:

I understand that after having obtained a detailed clinical history and thorough clinical examination, Pap smear will be taken and relevant investigations will be done.

RISKS & DISCOMFORTS:

I understand that I may have some discomfort during the examination or the procedure but there is no major risk involved with the Pap smear test

BENEFITS:

I understand that my participation in this study will help the investigator to understand the disease better and will help in the management of the disease.

CONFIDENTIALITY:

I understand that medical information produced by this study will become a part of hospital records and will be subjected to the confidentiality and privacy regulations of the said hospital. Information of sensitive and personal nature will not be a part of the medical records, but will be stored in the investigator's research file.

If the data are used for publication in the medical literature or for teaching purpose, no names will be used and other identifiers, such as photographs will be used only with my special written permission. I understand that I may see the photographs before giving the permission.

REQUEST FOR MORE INFORMATION:

I understand that I may ask more questions about the study at any time concerned. **Dr. Shilpi Aggarwal** at the department of Obstetrics & Gynecology, is available to answer my questions or concerns. I understand that I will be informed of any significant new findings discovered during the course of the study, which might influence my continued participation. A copy of this consent form will be given to me to keep for careful reading.

REFUSAL OR WITHDRAWAL OF PARTICIPATION:

I understand that my participation is voluntary and that I may refuse to participate or may withdraw consent and discontinue participation in the study at any time without prejudice. I also understand that **Dr. Shilpi Aggarwal** may terminate my participation in this study at any time after she has explained the reasons for doing so

and has helped arrange for my continued care by my own physican, if this is appropriate.

INJURY STATEMENT

I understand that in the unlikely event of injury to me resulting directly from my participation in this study and if such injury were reported promptly, then appropriate treatment would be available to me, but no further compensation would be provided by the hospital. I understand that by my agreement to participate in this study I am not waiving any of my legal rights.

STUDY SUBJECT CONSENT STATEMENT

I confirm that Dr. Shilpi Aggarwal has explained to me the research, the study procedure that I will undergo, and the possible risks and discomforts as well as benefits that I may experience. I have read and understood this consent form. Therefore, I agree to give my consent to participate as a subject in this research project.

_____ _____

Participant Date

_____ _____

Guardian Date

I have explained to _____ the purpose of the research, the procedures required and the possible risks and benefits to the best of my ability.

_____ _____

Dr.Shilpi Aggarwal Date

(Investigator)

KEY TO MASTER CHART

SN	Serial Number
IP/OP.NO	Inpatient/Outpatient Number
DOE	Date of Examination
A	Age (in years)
R	Religion
	H – Hindu
	M – Muslim
ES	Education Status
	L – Literate
	IL – Illiterate
SE	Socioeconomic Status
	L – Low
	M – Middle
	H – High
CC	Chief Complaints
	1 – White discharge per vagina
	2 – Irregular per vaginal bleeding
	2A – Menorrhagia
	2B – Polymenorrhoea
	2C – Irregular periods
	2D – Scanty menstruation
	2E – Post coital bleeding
	2F – Post menopausal bleeding
	2G – Intermenstrual bleeding
	3 – Pain Abdomen
	4 – Mass per vagina
	5 – Mass per abdomen
	6 – Asymptomatic
	7 – Others
	7A – Burning micturition
	7B – Backache

	7C – Itching over vulva
	7D – Loss of appetite
D U	Duration
	D - Days
	M – Months
	YR - Years
MH	Menstrual History
	PMC – Past menstrual cycles
	F – Flow
	M – Moderate
	E – Excessive
	R - Regular
	IR – Irregular
	D – Dysmenorrhoea
	LMP – Last menstrual period
	AM – Attained Menopause
OBH	Obstetric History
	AMa – Age at Marriage
	P - Para
	L – Living
	A – Abortions
	S – Sterilisation
	T – Tubectomy
	C – Cu–T
	O – OCP
PH	Past History
	DM – Diabetes Melitus
	HT – Hypertension
	TB – Tuberculosis
	STD – Sexually transmitted disease
	BT – Blood transfusion
	NAD – No abnormality detected
FH	Family History
	M – Malignancy

C – Cervical

B – Breast

G – GIT

PEH Personal History

D – Diet

A – Appetite

Bl – Bladder

Bo – Bowel

H – Habits

GPE General Physical Examination

A – Anaemia

L – Lymphadenopathy

V – Varicose veins

PO – Pedal Oedema

CVS Cardiovascular system

M – Murmur

RS Respiratory system

C – Crepts

R – Rhonchi

PA Per Abdomen

T – Tenderness

M – Mass

PS Per Speculum Examination

1 – Healthy cervix

2 – Atrophic cervix

3 – Cervical erosion

4 – Chronic cervicitis

5 – Cervical hypertrophy

6 – Cervical polyp

7 – Others

P – Prolapse G – Growth

PV Per Vaginal examination

AV – Anteverted uterus

NS – Normal size uterus

A – Atrophic uterus

B – Bulky uterus

FF – Fornices free

FT – Fornices tender

FM – Fornices mass

PI – Parametrial induration

PR Per Rectal examination

MF – Free mucosa

PG – Parametrial growth

INV Investigations

HB – Hemoglobin percentage

U – Urine Examination

PC+ – Pus cells present

P+ – Protein present

S+ – Sugar present

HIV – Human Immunodeficiency Virus

NR – Non reactive

R – Reactive

RBS : Random blood sugar

F : Fasting blood sugar

CYD Cytological Diagnosis

1 – Normal

2 – Inflammatory

3 –LSIL (Low grade squamous intraepithelial lesion)

4 –HSIL (High grade squamous intraepithelial lesion)

5 – Invasive Carcinoma

MASTER CHART

SN	IP/OP.No	DOE	NAME	A	R	ES	SE	CC	DU	MH		OBH					PH	FH	PEH	GPE				CVS	RS	PA		PS	PV	PR	INV				CYD
										PMC	LMP	Ama	P	L	A	S				A	L	V	PO			T	M				HB	U	HIV	RBS	
1	200302	01/10/08	GANGAWWA	42	H	IL	L	1	1M	R	14D	20	2	2	-	-	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	1	FT	-	9.6	NAD	NR	120	1
2	208740	01/10/08	LAYAWWA	35	H	L	M	1	15D	R	24D	22	2	2	1	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	12	NAD	NR	-	2
3	205198	04/10/08	KANCHAN	35	H	L	M	1	2M	R	10D	19	3	3	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	11.2	NAD	NR	140	2
4	208290	11/10/08	SHARADA	46	H	IL	L	6	-	R	AM	17	4	4	2	T	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	1	NS	-	9.2	NAD	NR	146	2
5	208472	11/10/08	SIDAMMA	30	H	L	L	1	4M	D	7D	20	2	2	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11.4	PC+	NR	-	2
6	213128	15/10/08	SHANTABAI	55	H	L	M	7B	1YR	R	AM	18	6	5	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	FT	-	10.1	NAD	NR	-	2
7	215789	18/10/08	KAMALABAI	40	H	L	M	1	6M	R	10D	22	2	2	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	NS	-	12	PC+	NR	124	2
8	215366	20/10/08	GANGAWWA	49	H	IL	L	4	2YR	R	AM	18	4	4	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	A	-	10.4	NAD	NR	110	2
9	215512	20/10/08	BASAMMA	42	H	L	M	1	1M	R	6D	20	2	2	1	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	3	NS	-	12.1	NAD	NR	-	3
10	216740	21/10/08	DANAMMA	38	H	IL	L	1	6M	R	15D	16	3	3	-	T	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	5	FT	-	9.2	NAD	NR	150	2
11	192492	21/10/08	SAVITRI	45	H	L	M	3	3M	R	AM	17	4	4	-	T	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	1	NS	-	10.2	NAD	NR	124	2
12	217547	22/10/08	SHIVALINGAWA	38	H	L	H	6	-	R	10D	24	2	2	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	12.2	NAD	NR	-	1
13	218470	23/10/08	SHANTABAI	35	H	IL	L	2B	4M	IR	8D	20	3	3	1	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	9.4	NAD	NR	-	2
14	218709	23/10/08	SAVITRI	25	H	L	M	3	6M	D	7D	22	1	1	-	O	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	12.2	NAD	NR	-	2
15	219578	24/10/08	DURAPABAI	60	H	IL	L	4	2YR	R	AM	16	4	4	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	7P	A	-	10.2	NAD	NR	124	2
16	227475	03/11/08	MAREYWWA	30	M	L	M	7A	15D	R	6D	20	2	2	-	C	NAD	NAD	BL	-	-	-	-	NAD	NAD	-	-	4	NS	-	11.4	PC+	NR	-	2
17	228235	07/11/08	KASHIBAI	38	H	L	M	2B	3M	R	9D	19	2	2	2	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	NS	-	11.8	PC+	NR	-	2
18	232272	10/11/08	FATIMA	30	M	L	L	1	1YR	R	15D	18	4	4	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	10.3	PC+	NR	136	2
19	232393	11/11/08	GANGAWWA	55	H	IL	L	1	2YR	R	AM	15	4	4	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	FT	-	11	NAD	NR	126	4
20	231481	17/11/08	RAJESHREE	27	H	L	M	6	-	R	5D	22	1	1	-	O	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	11.8	NAD	NR	-	2
21	234701	17/11/08	SUNITA	32	H	L	M	6	-	R	6D	24	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11.4	NAD	NR	-	1
22	237670	18/11/08	SUSALABAI	60	H	IL	L	4	5YR	R	AM	17	4	4	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	A	-	11.5	NAD	NR	-	2
23	241918	24/11/08	VIMALABAI	45	H	IL	L	1	2M	R	6D	16	3	3	2	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11	P+	NR	146	2
24	245586	29/11/08	SABAMMA	40	H	L	M	1	4M	E	9D	17	4	2	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	11.6	NAD	NR	174	2
25	246216	29/11/08	MAHADEVI	50	H	L	H	6	-	D	AM	16	8	8	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	10.2	NAD	NR	144	2
26	249427	04/12/08	IMAMBU	55	M	IL	L	4	5YR	R	AM	17	6	5	-	-	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	7P	A	-	9	NAD	NR	160	2
27	254034	10/12/08	CHANNAMMA	36	H	L	M	2A	6M	E	10D	20	2	2	-	T	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	1	B	-	8.2	NAD	NR	-	2
28	254575	11/12/08	PUSHPA	48	H	IL	M	3	3M	R	AM	18	3	3	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	FT	-	9.8	NAD	NR	-	2
29	252586	11/12/08	YAMUNABAI	50	H	IL	L	2C	3M	R	AM	17	4	4	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	NS	MF	10.4	NAD	NR	124	4
30	257298	15/12/08	SHANTABAI	42	H	L	M	7B	6M	R	7D	19	2	2	1	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	10.7	NAD	NR	-	2
31	259297	17/12/08	GUJJAWWA	55	H	IL	H	6	-	R	AM	16	5	4	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	A	-	10.4	NAD	NR	129	2
32	261462	19/12/08	VIJAYADEVI	46	H	L	M	7B	15D	R	4D	22	5	5	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11	PC+	NR	115	2
33	262798	23/12/08	SARASWATI	25	H	L	H	6	-	R	7D	20	1	1	-	O	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	12.4	NAD	NR	-	2
34	263530	23/12/08	JAYASHREE	46	H	L	L	7C	3M	R	AM	22	3	3	-	-	DM	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	12.5	S+	NR	P 220	2
35	263300	24/12/08	SUMANGALA	32	H	L	L	1	6M	D	12D	19	2	2	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	FT	-	12	NAD	NR	-	3
36	264335	24/12/08	LAKSHMIBAI	25	H	L	M	6	-	R	13D	20	1	1	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	12.1	NAD	NR	-	1
37	263744	24/12/08	VIJAYATA	25	H	L	M	3	3M	R	20D	22	1	1	1	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	4	FT	-	10.8	NAD	NR	-	2
38	265276	26/12/08	KANTEMMA	45	H	L	M	4	2YR	R	5D	18	3	3	1	T	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	7P	NS	-	10	NAD	NR	108	2
39	265017	26/12/08	ANNAPURNA	45	H	IL	M	2B	3M	IR	8D	19	2	2	-	T	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	1	NS	-	9.6	NAD	NR	-	2
40	267205	27/12/08	RAJSHREE	25	H	L	L	3	3M	D	5D	22	-	-	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	12.5	NAD	NR	-	2
41	268793	30/12/08	RUDRAMMA	35	H	L	M	6	-	R	14D	19	3	3	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	10.8	NAD	NR	-	2
42	270458	31/12/08	JAYASHREE	40	H	L	L	2A	6M	E	12D	19	2	2	-	T	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	1	B	-	8.2	NAD	NR	120	2
43	4165	06/01/09	USHA	38	H	L	H	6	-	R	10D	20	2	2	1	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	13	NAD	NR	-	1
44	6189	09/01/09	ROOPA	32	H	L	M	1	2M	R	12D	22	2	2	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	10.6	P+	NR	140	2
45	5285	09/01/09	BANGAREWWA	32	H	L	L	7B	5M	R	10D	14	2	1	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	11.2	NAD	NR	-	2
46	12558	17/01/09	SIDDAKKA	28	H	L	M	1	2M	R	4D	19	1	1	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11.6	PC+	NR	-	2
47	9418	21/07/09	MADEVI	25	H	L	M	6	-	R	4D	24	-	-	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	NS	-	11.4	NAD	NR	-	2
48	14732	21/01/09	LAKSHMI	40	H	L	H	2A	2M	E	12D	14	4	4	-	T	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	4	B	-	9.2	NAD	NR	140	2
49	15659	22/01/09	NEELAMMA	35	H	IL	L	7A	4D	R	8D	16	3	3	-	-	NAD	NAD	BL	-	-	-	-	NAD	NAD	-	-	3	NS	-	13	PC+	NR	142	2
50	15293	22/01/09	SHANTABAI	46	H	IL	M	4	2YR	R	AM	14	6	5	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	7P	NS	-	11	NAD	NR	96	2

MASTER CHART

										MH		OBH							GPE						PA				INV				
SN	IP/OP.No	DOE	NAME	A	R	ES	SE	CC	DU	PMC	LMP	Ama	P	L	A	S	PH	FH	PEH	A	L	V	PO	CVS	RS	T	M	PS	PV	PR	HB	U	HIV	RBS	CYD
51	17462	24/01/09	RENUKA	41	H	IL	L	1	6M	R	5D	15	2	2	2	-	DM	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11	S+	NR	P180	2
52	16762	27/01/09	SHANTAWWA	45	H	IL	L	3	15D	R	5D	14	3	3	-	T	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	2	NS	-	11	NAD	NR	106	2
53	18284	27/01/09	VIJAYALAKSHMI	52	H	IL	M	1	2YR	R	AM	15	4	4	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	A	-	10.3	NAD	NR	146	2
54	17891	27/01/09	LAKSHMI	33	H	L	M	6	-	R	6D	22	2	2	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	12.3	NAD	NR	-	2
55	19148	28/01/09	SUREKHA	36	H	L	L	7B	3M	R	20D	20	3	3	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11.8	NAD	NR	-	2
56	19925	28/01/09	GEETA	33	H	L	H	6	-	R	10D	18	3	3	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	12	NAD	NR	-	2
57	20545	29/01/09	RAHATHBAI	35	H	L	L	2A	6M	E	10D	19	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	8WK	-	9.2	NAD	NR	142	2
58	21867	30/01/09	KONTEWWA	30	H	L	H	1	2M	R	9D	24	1	1	1	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	10.8	PC+	NR	118	2
59	22459	30/01/09	NANADEMMA	45	H	IL	L	2C	4M	IR	10D	19	3	3	1	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	B	-	10.2	NAD	NR	-	2
60	23530	02/02/09	RADHA	45	H	L	L	3	3M	R	10D	18	2	2	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	FT	-	12.3	NAD	NR	-	2
61	26138	04/02/09	KASTURI	25	H	L	M	1	3M	R	12D	14	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	10.4	NAD	NR	98	2
62	28221	06/02/09	LAXMI	35	H	L	H	2A	6M	R	14D	16	3	3	-	T	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	1	B	-	8.2	NAD	NR	104	2
63	28816	07/02/09	SUVARNA	28	H	L	M	1	4M	D	15D	17	2	1	1	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	FT	-	11.2	NAD	NR	110	2
64	29570	10/02/09	SHANTABAI	47	H	IL	L	2E	2M	IR	12D	15	6	5	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	10.9	NAD	NR	-	2
65	31759	11/02/09	JAYADEVI	39	H	L	L	3	3M	R	6D	19	4	4	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	5	FT	-	11	NAD	NR	142	2
66	36642	17/02/09	VAJANTA	40	H	IL	L	2A	4M	R	12D	14	4	3	1	0	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	4	B	-	9	NAD	NR	-	2
67	34038	18/02/09	DIVYA	30	H	IL	L	6	-	R	10D	14	3	3	1	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	10.8	NAD	NR	124	1
68	37694	19/02/09	VIJAYA	50	H	L	L	4	1YR	R	AM	13	6	5	1	T	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	7P	A	-	9.4	NAD	NR	-	2
69	40172	21/02/09	KASHIBAI	30	H	L	M	2B	3M	IR	20D	16	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	NS	-	11.6	NAD	NR	-	2
70	40312	24/02/09	ARUNA	32	H	IL	L	7A	4D	R	10D	18	3	3	-	C	NAD	NAD	BL	-	-	-	-	NAD	NAD	-	-	4	NS	-	10	PC+	NR	140	2
71	40547	24/02/09	NULAWAN	30	H	IL	L	1	5M	D	12D	14	2	2	1	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	10.2	PC+	NR	144	2
72	23531	26/02/09	RADHA	45	H	L	M	2A	3M	R	14D	15	3	3	2	T	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	3	B	-	7	NAD	NR	129	2
73	42661	26/02/09	KAMALA	42	H	IL	L	5	3M	R	22D	15	9	9	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	+	3	16WK	-	10.6	NAD	NR	134	2
74	45396	28/02/09	AMBABAI	35	H	L	M	3	1YR	R	10D	19	3	2	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	10.3	NAD	NR	-	2
75	51759	09/03/09	MALLAMMA	45	H	IL	L	1	4M	R	12D	14	5	5	-	T	DM	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	FT	-	11.2	S+	NR	P220	2
76	51621	09/03/09	MAHALAKSHMI	35	H	IL	L	1	3M	R	16D	14	4	3	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11.4	NAD	NR	116	4
77	57129	14/03/09	ANSUYA	35	H	L	H	1	3M	R	19D	20	1	1	-	0	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11	PC+	NR	140	2
78	56949	16/03/09	DUNDAMMA	26	H	L	L	2C	5M	IR	12D	16	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	10.9	NAD	NR	-	2
79	59592	18/03/09	SHAKUNTALA	34	H	IL	L	2D	4M	R	10D	19	6	6	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	12	NAD	NR	-	2
80	59714	18/03/09	SAVITRI	42	H	IL	M	3	6M	IR	10D	17	5	5	-	-	HT	NAD	NAD	-	-	-	-	NAD	NAD	-	-	2	NS	-	10.4	NAD	NR	140	2
81	64255	24/03/09	GANGABAI	47	H	IL	L	4	2YR	R	AM	16	3	3	1	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	7P	NS	-	10.8	NAD	NR	106	2
82	68132	28/03/09	LAKSHMI	35	H	IL	L	1	6M	R	15D	17	2	2	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	3	FT	-	12	PC+	NR	116	2
83	62665	30/03/09	SHANTAMMA	60	H	L	L	2F	2M	R	AM	14	5	5	-	-	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	2	NS	-	9.2	NAD	NR	120	1
84	70433	31/03/09	CHINNAWWA	45	H	IL	L	1	3M	R	10D	15	2	2	1	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	10.2	NAD	NR	-	4
85	68989	31/03/09	SHANTABAI	56	H	L	M	1	4M	R	AM	17	3	3	2	T	DM	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11.1	PC+	NR	F160	4
86	71136	02/04/09	BASAVARAJESHWARI	45	H	L	M	7C	4M	R	AM	19	4	4	1	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	12	PC+	NR	220	2
87	73604	04/04/09	MAYAMMA	52	H	IL	L	7B	15D	R	AM	15	5	4	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	NS	-	12.2	NAD	NR	-	2
88	73862	04/04/09	JAYASHREE	30	H	L	H	1	6M	R	15D	16	6	5	1	T	NAD	NAD	NAD	+	-	-	-	NAD	NAD	+	-	4	FT	-	9.6	NAD	NR	-	2
89	79153	13/04/09	KAVITA	29	H	L	M	2C	5M	IR	10D	17	4	4	2	0	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	10.2	NAD	NR	-	2
90	80995	15/04/09	SHARANAMMA	22	H	L	L	7A	4D	R	10D	17	2	2	-	-	NAD	NAD	BL	-	-	-	-	NAD	NAD	-	-	3	NS	-	10.6	PC+	NR	-	2
91	84007	1704/09	SHEELA	45	H	IL	L	7B	2M	R	15D	19	7	5	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	4	FT	-	11	NAD	NR	-	2
92	83450	17/04/09	SAVITRI	26	H	IL	M	1	6M	R	9D	20	1	1	-	0	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	10.4	NAD	NR	-	2
93	82581	20/04/09	SUJATA	35	H	L	M	1	4M	R	11D	18	2	2	1	-	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	5	NS	-	9.6	NAD	NR	-	2
94	86695	22/04/09	SEEMA	53	H	IL	L	4	1YR	R	AM	16	3	3	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	7P	A	-	11.2	NAD	NR	122	2
95	94718	02/05/09	SHARADA	42	H	IL	L	2A	6M	R	15D	18	2	2	-	-	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	4	B	-	9.2	NAD	NR	140	2
96	94956	02/05/09	SANGEETA	38	H	L	M	2D	4M	R	6D	14	6	3	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	NS	-	11.6	NAD	NR	-	2
97	100482	09/05/09	PUSHPA	32	H	L	L	1	6M	R	10D	15	2	1	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	12	NAD	NR	-	2
98	101636	12/05/09	KAVITA	22	H	IL	L	3	2M	R	15D	16	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	1	NS	-	11.8	NAD	NR	-	2
99	101116	12/05/09	DEVAKAMMA	38	H	L	M	6	-	R	10D	18	3	3	1	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	10.9	NAD	NR	-	1
100	107574	18/05/09	JAITUNABI	55	M	IL	L	1	2M	R	AM	14	5	5	-	-	HT	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	FT	-	11.1	NAD	NR	144	5

MASTER CHART

										MH		OBH							GPE						PA					INV				
SN	IP/OP.No	DOE	NAME	A	R	ES	SE	CC	DU	PMC	LMP	Ama	P	L	A	S	PH	FH	PEH	A	L	V	PO	CVS	RS	T	M	PS	PV	PR	HB	U	HIV	RBS	CYD
101	107682	18/05/09	BOURAMMA	22	H	L	M	2B	3M	R	10D	15	2	2	-	-	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	4	NS	-	8.6	NAD	NR	-	2
102	113453	26/05/09	SHARADABAI	35	H	L	M	1	6M	R	22D	14	3	3	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	10.6	NAD	NR	-	2
103	115265	28/05/09	SHAKUNTALA	47	H	IL	L	4	2YR	R	AM	16	4	4	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	NS	-	9.9	NAD	NR	108	2
104	115095	28/05/09	RENUKABAI	45	H	L	M	5	6M	R	15D	17	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	+	4	16WK	-	10.9	NAD	NR	114	2
105	115460	28/05/09	SHANTAMMA	50	H	IL	L	1	2M	R	AM	19	3	3	1	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	11	NAD	NR	129	2
106	117140	30/05/09	MADEVI	34	H	L	M	2E	3M	R	19D	17	2	2	-	C	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	6	NS	-	8.6	NAD	NR	-	2
107	117191	30/05/09	MALLAMMA	35	H	L	M	1	1YR	R	15D	16	3	3	-	0	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	10.8	PC+	NR	-	2
108	118166	30/05/09	SIDDAWWA	60	H	IL	L	4	5YR	R	AM	14	6	6	-	-	HT	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	A	-	11.2	NAD	NR	108	2
109	118300	01/06/09	BASAMMA	45	H	L	M	2A	6M	R	15D	13	3	3	-	-	BT	NAD	NAD	+	-	-	-	NAD	NAD	-	-	5	B	-	7.2	NAD	NR	-	4
110	119353	02/06/09	TAHERA	44	M	IL	L	1	6M	R	10D	16	3	3	1	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	4	FT	-	11	PC+	NR	150	2
111	118980	02/06/09	KATALBEE	40	M	IL	L	7B	4M	R	1M	15	2	2	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	NS	-	12.1	NAD	NR	-	2
112	123713	06/06/09	MAHANANDA	22	H	L	M	7A	4D	R	6D	18	3	3	-	0	NAD	NAD	BL	-	-	-	-	NAD	NAD	+	-	4	NS	-	13	PC+	NR	-	2
113	123158	06/06/09	NEELABAI	40	H	IL	L	1	3M	R	14D	14	6	6	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	12.2	PC+	NR	-	4
114	124160	08/06/09	BASAMMA	45	H	IL	L	1	6M	IR	19D	18	5	4	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	11.8	NAD	NR	-	4
115	123383	08/06/09	SHOBHA	49	H	IL	L	2B	6M	R	6D	14	3	3	-	T	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	3	NS	-	9.9	NAD	NR	120	3
116	124589	08/06/09	JYOTI	28	H	L	M	7A	3D	R	15D	15	4	3	1	-	NAD	NAD	BL	-	-	-	-	NAD	NAD	-	-	3	NS	-	11.2	PC+	NR	-	2
117	126760	11/06/09	RATNA	50	H	IL	L	7C	2M	R	AM	14	6	5	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11.6	PC+	NR	-	2
118	126953	11/06/09	AMBAWWA	40	H	L	M	1	4M	R	20D	19	7	7	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	10.8	NAD	NR	-	2
119	124050	11/06/09	PUTALABAI	45	H	IL	L	2C	6M	IR	12D	15	3	2	1	T	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	3	NS	-	9.2	NAD	NR	-	4
120	130705	15/06/09	DEVAKKI	30	H	L	M	1	6M	R	10D	19	2	2	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	3	FT	-	12	NAD	NR	-	2
121	131757	17/06/09	SUNANDA	35	H	IL	L	1	6M	R	15D	16	3	3	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	FT	-	10.9	NAD	NR	-	2
122	133686	18/06/09	JAYASHRI	25	H	IL	L	2B	4M	R	10D	20	1	1	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	NS	-	11	NAD	NR	-	2
123	134413	19/06/09	BOURAMMA	35	H	L	M	1	1YR	R	20D	21	2	2	1	-	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	3	NS	-	10	NAD	NR	-	2
124	134283	19/06/09	VIJAYALAKSHMI	27	H	IL	L	2C	3M	IR	15D	19	2	1	-	O	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	11	NAD	NR	-	2
125	134718	20/06/09	REKHA	38	H	IL	M	3	1M	R	26D	16	4	4	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	1	NS	-	12.2	NAD	NR	-	2
126	133893	20/06/09	JAKKAWWA	50	H	L	M	1	3M	R	10D	16	4	4	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	FT	-	10.6	PC+	NR	108	2
127	140160	26/06/09	BASAMMA	51	H	IL	L	1	6M	IR	15D	15	8	8	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11.1	NAD	NR	124	2
128	140685	27/06/09	SAJANBEE	55	H	L	H	7C	2M	R	AM	14	4	4	-	T	DM	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	10	PC+	NR	F130	2
129	141105	27/06/09	CHANDRABAI	60	H	IL	L	1	9M	R	AM	13	3	3	-	-	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	4	A	-	9.2	NAD	NR	126	3
130	144626	01/07/09	ADIREWWA	35	M	L	H	2A	2M	R	16D	16	4	4	-	-	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	3	B	-	8.6	NAD	NR	-	2
131	144139	02/07/09	YAMANABAI	55	H	L	M	5	6M	R	AM	17	4	3	-	-	NAD	O	NAD	+	-	-	+	NAD	NAD	-	+	4	FM	MF	9	NAD	NR	110	2
132	145178	03/07/09	KAMALABAI	45	H	L	M	1	3M	R	15D	16	5	5	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	10.8	NAD	NR	118	3
133	145226	03/07/09	ANASUYYA	49	H	IL	L	7B	4M	R	AM	22	3	3	-	-	HT	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	10.2	NAD	NR	132	2
134	147667	04/07/09	PAMAKKA	35	H	IL	L	2E	1M	R	10D	17	4	4	1	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	6	NS	-	12	NAD	NR	-	2
135	148324	06/07/09	TARA	32	H	IL	L	1	7M	R	15D	16	3	3	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	3	FT	-	11.1	PC+	NR	-	2
136	148759	06/07/09	SHANTABAI	56	H	L	M	7C	3M	R	AM	15	4	4	-	-	DM	NAD	NAD	-	-	-	-	NAD	NAD	-	-	2	A	-	10	NAD	NR	F140	2
137	149391	07/07/09	LAXMIBAI	45	H	IL	L	2E	2M	R	AM	14	6	5	1	-	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	3	A	-	9.2	NAD	NR	152	3
138	151220	09/07/09	JYOTI	21	H	L	H	2D	6M	IR	15D	18	-	-	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	10.6	NAD	NR	-	2
139	155279	14/07/09	ANNAPURNA	47	H	L	H	4	2YR	R	AM	16	4	3	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	NS	-	10.9	NAD	NR	134	2
140	154118	14/07/09	KAVITA	35	H	L	M	1	3M	R	12D	15	2	2	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	3	FT	-	11	NAD	NR	-	2
141	158852	21/07/09	SUDHA	38	H	IL	L	1	4M	IR	10D	16	3	3	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	10.2	NAD	NR	-	2
142	161425	21/07/09	NAZIRA	55	M	IL	L	7B	3M	R	AM	15	9	9	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	A	-	11.4	NAD	NR	-	2
143	164706	24/07/09	RUDRAWWA	40	H	IL	L	1	6M	R	10D	20	2	2	2	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	NS	-	10.3	NAD	NR	-	3
144	158114	24/07/09	LADAMMA	29	H	IL	M	1	4M	R	15D	16	4	3	1	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	4	FT	-	11	NAD	NR	-	2
145	169241	30/07/09	DUNDAWWA	40	H	L	M	7B	5M	R	15D	19	4	2	1	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	NS	-	11	NAD	NR	-	2
146	170950	31/07/09	MAHADEVI	40	H	L	H	3	4M	R	20D	15	4	4	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	11.2	NAD	NR	-	3
147	173713	04/08/09	ANNSUBAI	28	H	IL	L	1	1YR	R	22D	16	4	4	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	FT	-	10.3	NAD	NR	108	2
148	173760	05/08/09	SHAKUNTALA	55	H	IL	L	2F	2M	R	AM	14	6	6	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	12	NAD	NR	120	2
149	174385	05/08/09	KASHIBAI	25	H	IL	L	2B	6M	R	15D	18	2	2	-	O	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	B	-	11	NAD	NR	-	2
150	173040	06/08/09	KULSUMA	35	H	IL	L	1	4M	R	16D	20	2	2	1	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	10.6	NAD	NR	-	2

MASTER CHART

										MH		OBH							GPE						PA				INV				
SN	IP/OP.No	DOE	NAME	A	R	ES	SE	CC	DU	PMC	LMP	Ama	P	L	A	S	PH	FH	PEH	A	L	V	PO	CVS	RS	T	M	PS	PV	PR	HB	U	HIV	RBS	CYD
151	181163	13/08/09	RENUKA	20	H	L	M	3	3M	R	14D	18	1	1	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	4	NS	-	10	NAD	NR	-	2
152	181153	13/08/09	MAHANANDA	35	H	L	M	1	4M	R	12D	20	3	3	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	FT	-	11	PC+	NR	118	2
153	182841	14/08/09	MAHADEVI	47	H	IL	L	7A	3D	R	AM	16	4	4	-	-	NAD	NAD	BL	-	-	-	-	NAD	NAD	-	-	1	NS	-	10.3	PC+	NR	-	2
154	184317	17/08/09	RATNA	45	H	IL	L	1	4M	R	15D	15	3	3	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	11.2	NAD	NR	-	2
155	187640	21/08/09	MALANBI	60	M	IL	M	4	2YR	R	AM	14	7	5	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	A	-	11.4	NAD	NR	144	2
156	188191	22/08/09	MADEVI	60	H	IL	L	7C	3M	R	AM	13	8	5	-	-	DM	NAD	NAD	-	-	-	-	NAD	NAD	-	-	2	A	-	10.6	PC+	NR	F139	2
157	191336	25/08/09	KANTABAI	30	H	IL	L	6	-	R	15D	15	4	4	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	11.2	NAD	NR	-	1
158	196524	29/08/09	SIDDAMMA	25	H	L	M	1	3M	R	10D	16	2	2	-	O	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	10.2	NAD	NR	-	2
159	197341	01/09/09	SHREEDEVI	25	H	L	M	1	6M	R	12D	17	1	1	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	11.9	NAD	NR	-	2
160	195570	01/09/09	NAGAMMA	30	H	IL	L	1	4M	R	16D	15	2	2	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	4	FT	-	12	PC+	NR	-	2
161	206028	09/09/09	RENUKA	45	H	IL	L	1	3M	R	15D	17	3	3	-	T	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	4	NS	-	9.6	PC+	NR	134	2
162	204562	10/09/09	SANGAWWA	60	H	IL	L	4	1YR	R	AM	15	4	4	-	-	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	5	A	-	9.4	NAD	NR	118	2
163	208040	11/09/09	SUNANDA	50	H	L	M	7B	2M	R	AM	16	3	3	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	10.8	NAD	NR	144	2
164	208686	11/09/09	KANTA	45	H	IL	M	7C	2M	R	10D	15	2	2	1	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11	PC+	NR	160	2
165	210305	14/09/09	SANGAMMA	50	H	IL	L	5	4M	R	AM	14	3	3	-	-	NAD	O	NAD	+	-	-	+	NAD	NAD	-	+	1	FM	MF	9.8	NAD	NR	126	2
166	211201	15/09/09	SUNANDA	35	H	L	M	6	-	R	12D	13	4	4	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	12	NAD	NR	-	2
167	211199	15/09/09	NIRMALA	35	H	IL	L	1	4M	R	20D	14	2	2	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	FT	-	11	NAD	NR	-	2
168	210658	15/09/09	GEETA	40	H	IL	L	1	6M	R	24D	16	3	3	1	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	12.2	PC+	NR	122	2
169	210875	15/09/09	NIRMALA	35	H	IL	L	1	2M	IR	10D	15	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	FT	-	11	NAD	NR	-	2
170	211890	16/09/09	NEELAMMA	35	H	IL	L	1	4M	R	11D	16	3	3	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	10.6	NAD	NR	-	2
171	213451	17/09/09	NINGAMMA	25	H	L	M	2B	4M	IR	14D	19	2	2	-	0	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	B	-	10	NAD	NR	-	2
172	213712	17/09/09	GOURABAI	42	H	IL	L	2G	2M	R	15D	13	5	4	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	11	NAD	NR	-	2
173	213787	17/09/09	SAROJANI	42	H	L	M	1	2M	R	6D	14	5	5	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	10.8	PC+	NR	-	2
174	215321	18/09/09	KAMALAKSHI	50	H	L	M	7C	6M	R	AM	16	3	3	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	2	NS	-	11.2	NAD	NR	156	2
175	218072	22/09/09	MAMTAZ	34	M	L	M	2E	3M	R	15D	15	4	4	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	6	NS	-		NAD	NR	-	2
176	217112	22/09/09	MANATAMMA	34	H	IL	L	1	2YR	R	6D	14	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	12.2	NAD	NR	-	2
177	218602	22/09/09	SHASHIKALA	20	H	L	M	1	2M	R	5D	17	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	FT	-	11	PC+	NR	-	2
178	219980	25/09/09	KALYNAWWA	50	H	L	H	7B	6M	R	AM	18	3	3	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	2	NS	-	11.2	NAD	NR	-	2
179	220807	26/09/09	RAJESHREE	28	H	IL	M	1	4M	R	20D	18	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	10.8	NAD	NR	-	2
180	221985	26/09/09	GURULINGAWWA	60	H	IL	L	4	3YR	R	AM	14	7	6	1	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	A	-	9.8	NAD	NR	110	2
181	222524	29/09/09	JAYASHREE	32	H	IL	L	2A	3M	R	10D	16	2	2	-	-	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	1	B	-	9.1	NAD	NR	-	2
182	224962	30/09/09	PARAVATI	47	H	L	H	7A	2D	R	AM	14	6	6	-	T	NAD	NAD	BL	-	-	-	-	NAD	NAD	-	-	4	NS	-	10.2	PC+	NR	-	2
183	224281	07/10/09	SHAKUNTALA	60	H	L	M	4	4YR	R	AM	13	6	6	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	A	-	10.9	NAD	NR	116	2
184	231587	07/10/09	SUNANDA	35	H	IL	L	1	3M	R	15D	15	4	4	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	FT	-	11	PC+	NR	-	2
185	231556	07/10/09	PARAVATI	28	H	IL	L	1	4M	R	10D	17	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11.2	NAD	NR	-	2
186	243438	22/10/09	SAVETRI	30	H	L	L	1	6M	R	5D	19	3	2	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	FT	-	10.6	NAD	NR	-	2
187	243466	22/10/09	SHANTABAI	60	H	L	M	6	-	R	AM	15	9	7	-	-	HT	NAD	NAD	+	-	-	-	NAD	NAD	-	-	1	NS	-	9.8	NAD	NR	106	1
188	243597	22/10/09	PREMA	53	H	L	M	7C	6M	R	AM	18	6	6	-	-	DM	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	10.2	NAD	NR	F140	2
189	244532	23/10/09	RENUKA	51	H	IL	L	1	6M	R	AM	14	6	6	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	11.2	NAD	NR	120	5
190	244630	24/10/09	KAMLIBAI	35	H	L	M	2D	4M	IR	6D	15	4	4	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	FT	-	11.6	PC+	NR	118	2
191	243993	24/10/09	ROHINI	22	H	IL	L	2C	6M	IR	15D	18	1	1	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11	NAD	NR	-	2
192	247963	27/10/09	PARAMESHWARI	51	H	L	M	4	1YR	IR	AM	19	3	3	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	NS	-	12.1	NAD	NR	-	2
193	250899	29/10/09	VIDYA	41	H	IL	L	1	1M	R	15D	16	3	3	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	A	-	10.6	PC+	NR	124	2
194	249839	29/10/09	RADHA	56	H	IL	L	1	3M	R	AM	14	4	4	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11	NAD	NR	-	3
195	246400	29/10/09	SHIVALINGAMMA	55	H	IL	L	6	-	IR	AM	22	3	3	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	11.4	NAD	NR	-	2
196	249756	29/10/09	LALITHABAI	45	H	L	M	7B	1YR	R	20D	20	4	3	1	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	10	NAD	NR	-	2
197	252045	31/10/09	BHUVANESHWARI	29	H	L	M	1	3M	R	6D	18	4	4	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	3	FT	-	11.4	PC+	NR	-	2
198	253637	03/11/09	RENUKA	32	H	IL	L	1	1M	R	11D	19	3	3	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11.2	NAD	NR	-	2
199	254962	03/11/09	JULEKA	30	M	L	M	1	4M	R	5D	18	3	3	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	FT	-	10.8	NAD	NR	-	2
200	254940	03/11/09	MADEVI	55	H	L	H	4	2YR	R	AM	20	6	6	1	-	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	5	A	-	9.6	NAD	NR	120	2

MASTER CHART

										MH		OBH							GPE						PA					INV				
SN	IP/OP.No	DOE	NAME	A	R	ES	SE	CC	DU	PMC	LMP	Ama	P	L	A	S	PH	FH	PEH	A	L	V	PO	CVS	RS	T	M	PS	PV	PR	HB	U	HIV	RBS	CYD
201	267385	06/11/09	ANNAPURNA	33	H	IL	L	1	3M	R	10D	19	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	10.3	NAD	NR	-	2
202	255915	06/11/09	JAYADA	35	M	L	M	1	4M	R	15D	16	3	3	1	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	11.4	NAD	NR	106	2
203	258174	07/11/09	ANURADHA	32	H	IL	L	1	1YR	IR	6D	15	3	3	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	4	FT	-	11.2	PC+	NR	-	2
204	258693	07/11/09	SAVETRI	26	H	IL	L	2B	6M	IR	3D	15	2	2	-	-	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	1	NS	-	10	NAD	NR	-	2
205	259752	10/11/09	CHANDRABAG	60	H	L	M	7C	4M	R	AM	13	6	6	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	A	MF	10.4	NAD	NR	-	2
206	260298	10/11/09	JAYASHREE	39	H	IL	L	5	2M	IR	10D	18	3	3	-	-	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	+	3	16WK	-	9.6	NAD	NR	-	2
207	261664	11/11/09	MALTI	59	H	L	M	5	6M	R	AM	17	7	7	1	-	NAD	O	NAD	+	-	-	+	NAD	NAD	-	+	4	FM	MF	9	NAD	NR	118	2
208	260958	11/11/09	ANUSUYA	30	H	L	M	1	4M	R	6D	16	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	10.4	NAD	NR	-	2
209	265132	16/11/09	SARASWATI	30	H	IL	L	1	5M	R	10D	17	3	3	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11	NAD	NR	120	2
210	17140	16/11/09	SUMITRABAI	60	H	IL	H	4	2YR	R	AM	16	4	4	1	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	A	-	11.4	NAD	NR	130	2
211	267217	19/11/09	SHARADA	27	H	IL	H	2A	4M	R	10D	18	1	1	-	-	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	1	B	-	12	NAD	NR	-	2
212	268859	21/11/09	TARA	28	H	IL	L	3	6M	R	12D	17	-	-	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	1	NS	-	11	NAD	NR	-	1
213	268799	21/11/09	SUVARNA	39	H	L	M	1	4M	R	10D	16	3	3	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	10.6	NAD	NR	-	2
214	271652	25/11/09	RENUKA	38	H	L	L	1	1YR	R	12D	22	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	4	FT	-	12	NAD	NR	116	2
215	272572	25/11/09	SANGAMMA	45	H	IL	L	6	-	R	20D	18	3	3	1	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	11	NAD	NR	-	2
216	272470	25/11/09	SUCHITRA	36	H	IL	M	1	4M	R	14D	17	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11.4	NAD	NR	-	2
217	276610	30/11/09	VAJANTA	50	H	L	M	7B	6M	R	AM	16	9	8	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	FT	-	12	NAD	NR	-	2
218	275298	30/11/09	KAMALA	38	H	IL	L	3	10D	IR	16D	15	3	3	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	1	FT	-	10	NAD	NR	120	2
219	276956	30/11/09	SHOBHA	28	H	IL	L	6	-	R	16D	14	2	2	-	O	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	11	NAD	NR	-	2
220	277471	02/12/09	BASAMMA	42	H	IL	L	1	6M	R	18D	16	9	7	-	-	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	4	NS	-	9	PC+	NR	118	5
221	280172	05/12/09	MADEVI	24	H	L	H	2C	1YR	IR	15D	15	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11.4	NAD	NR	-	2
222	280445	05/12/09	HANAMMA	30	H	L	M	1	3M	R	24D	16	3	3	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	10.9	NAD	NR	-	3
223	280868	05/12/09	SHANTAWWA	55	H	IL	L	4	4YR	R	AM	14	7	6	-	-	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	5	NS	-	9.2	NAD	NR	143	2
224	284653	10/12/09	PARAVATI	40	H	L	M	2A	4M	R	15D	19	3	3	-	-	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	4	B	-	7.8	NAD	NR	-	2
225	290676	17/12/09	CHANDABEE	50	M	L	L	1	6M	R	AM	14	7	6	-	-	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	3	NS	-	9.9	PC+	NR	124	4
226	295962	22/12/09	BASAMMA	42	H	IL	L	1	1YR	R	10D	18	4	4	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	4	FT	-	11	PC+	NR	110	4
227	296098	23/12/09	LAKSHIMBAI	35	H	L	M	2B	2M	IR	12D	16	3	3	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	B	-	10.1	NAD	NR	-	2
228	295362	23/12/09	SAHEBAWWA	55	M	L	M	5	6M	R	AM	17	6	6	-	-	NAD	NAD	NAD	+	-	-	+	NAD	NAD	-	+	5	FM	-	9.2	NAD	NR	140	2
229	296101	23/12/09	SHANTABAI	45	H	IL	L	7A	2D	R	10D	16	3	3	-	-	NAD	NAD	BL	-	-	-	-	NAD	NAD	-	-	4	NS	-	10.4	PC+	NR	-	2
230	296890	23/12/09	SURYKA	37	H	IL	L	3	2M	R	10D	18	4	4	1	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	4	NS	-	11	NAD	NR	-	2
231	299651	26/12/09	AMBIKA	35	H	IL	L	2A	4M	R	15D	14	2	2	-	C	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	3	B	-	11	NAD	NR	-	2
232	302914	31/12/09	RUKMA	60	H	IL	L	2E	5M	IR	AM	15	5	5	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11	NAD	NR	-	3
233	302899	31/12/09	LAKSHMIBAI	40	H	L	M	1	2M	R	10D	15	3	3	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	FT	-	12	NAD	NR	110	2
234	346	01/01/10	MALAKAWWA	38	H	L	M	1	3M	R	15D	16	3	3	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11.1	NAD	NR	-	2
235	319	01/01/10	MALLAMMA	50	H	L	M	4	1Y6M	R	AM	14	2	2	1	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	A	-	10.4	NAD	NR	-	2
236	2013	04/01/10	BASAWWA	30	H	IL	L	1	1YR	IR	12D	17	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	10.2	PC+	NR	114	2
237	2487	04/01/10	SHOBHA	31	H	L	H	1	4M	R	24D	14	3	3	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	FT	-	11.1	NAD	NR	-	2
238	2958	04/01/10	SUVARNA	32	H	IL	L	1	6M	R	12D	15	4	3	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11	NAD	NR	-	2
239	3151	05/01/10	BHAGIRATI	24	H	IL	L	3	4M	R	10D	19	1	1	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	5	NS	-	10	NAD	NR	-	2
240	3153	05/01/10	CHANDRABAGA	58	H	L	M	7C	6M	R	AM	16	9	7	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	2	NS	-	10.2	PC+	NR	144	2
241	4101	05/01/10	RENUKA	20	H	IL	L	2C	3YR	IR	10D	15	1	1	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	12	NAD	NR	-	2
242	4840	06/01/10	SEETA	34	H	L	H	2A	6M	IR	15D	16	3	3	-	T	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	4	B	-	9	NAD	NR	-	2
243	5537	07/01/10	KASTURI	30	H	IL	L	1	3M	R	10D	15	2	2	1	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	3	FT	-	11.1	NAD	NR	-	2
244	2345	07/01/10	ANURADHA	35	H	L	M	1	6M	R	6D	17	3	3	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	10.9	NAD	NR	120	2
245	7080	09/01/10	GANGAMMA	45	H	IL	L	2B	2YR	IR	10D	15	8	8	-	-	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	4	B	-	9.1	NAD	NR	108	2
246	10032	12/01/10	KAMALABAI	35	H	IL	L	3	3M	R	9D	14	4	4	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	5	FT	-	12.1	NAD	NR	-	2
247	9335	12/01/10	MADEVI	40	H	IL	L	1	6M	R	15D	18	3	3	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	10.8	NAD	NR	-	2
248	9376	12/01/10	SHOBHA	28	H	L	M	3	1M	R	12D	18	2	2	-	O	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	1	NS	-	9.8	NAD	NR	-	2
249	7080	12/01/10	GANGAMMA	45	H	IL	L	4	1YR	R	AM	17	10	9	1	-	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	5	NS	-	9.2	NAD	NR	109	2
250	10846	13/01/10	SAROJANI	30	H	IL	M	1	5M	R	15D	16	3	3	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	FT	-	11.1	PC+	NR	116	2

MASTER CHART

										MH		OBH							GPE						PA					INV				
SN	IP/OP.No	DOE	NAME	A	R	ES	SE	CC	DU	PMC	LMP	Ama	P	L	A	S	PH	FH	PEH	A	L	V	PO	CVS	RS	T	M	PS	PV	PR	HB	U	HIV	RBS	CYD
251	12773	16/01/10	CHANABASAMMA	45	H	L	M	1	1YR	R	6D	17	3	3	-	T	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	4	NS	-	9.9	NAD	NR	118	2
252	13291	16/01/10	BHAGYASHREE	29	H	L	H	1	2M	R	22D	16	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	FT	-	12.4	PC+	NR	-	2
253	14258	19/01/10	CHANDRAMMA	32	H	IL	L	6	-	R	10D	15	3	3	1	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	11	NAD	NR	-	2
254	11516	20/01/10	SHANKREMMA	45	H	IL	L	6	-	R	20D	19	3	3	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	NS	-	11.2	NAD	NR	-	2
255	17356	21/01/10	TARABAI	35	H	L	M	1	4M	R	15D	20	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	3	FT	-	10.6	NAD	NR	-	2
256	18254	21/01/10	NIMBEWWA	22	H	L	M	2D	6M	IR	6D	19	-	-	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	10.9	NAD	NR	-	2
257	19779	25/01/10	NAGAMMA	60	H	IL	L	4	1YR	R	AM	16	9	6	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	7P	A	-	10.1	NAD	NR	140	2
258	20970	25/01/10	ANITHA	32	H	L	H	1	4M	IR	10D	17	3	3	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	11.2	NAD	NR	134	2
259	20604	25/01/10	KASTURI	35	H	IL	L	2E	4M	R	20D	16	2	2	1	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	6	NS	-	12.1	NAD	NR	-	2
260	23465	28/01/10	SATAMMA	40	H	IL	L	1	1YR	R	6D	17	3	3	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11.9	NAD	NR	-	2
261	26008	30/01/10	KAVITA	55	H	IL	L	7B	2YR	R	AM	16	9	9	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	A	-	10.6	NAD	NR	110	2
262	26275	01/02/10	SUNANDA	35	H	L	H	1	6M	R	6D	14	3	3	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	FT	-	12.2	PC+	NR	-	2
263	26163	01/02/10	MALAMMA	45	H	L	M	7C	6M	R	10D	20	4	4	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	2	FT	-	10.9	NAD	NR	-	2
264	26477	01/02/10	CHANDAMMA	40	H	L	M	1	1YR	R	15D	19	3	3	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	4	FT	-	11.1	NAD	NR	126	2
265	27540	01/02/10	SUVARNA	45	H	IL	L	7A	2D	R	6D	18	4	4	-	-	NAD	NAD	BL	-	-	-	-	NAD	NAD	-	-	4	NS	-	10.6	PC+	NR	-	2
266	14322	02/02/10	BASAMMA	42	H	IL	L	1	7M	R	10D	14	5	5	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	10.9	NAD	NR	-	3
267	29596	04/02/10	SHAILA	35	H	IL	L	6	-	R	10D	22	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	11.8	NAD	NR	-	2
268	33617	08/02/10	CHANNAMMA	45	H	IL	L	7C	7M	R	AM	19	3	2	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	FT	-	10.9	NAD	NR	115	2
269	33332	08/02/10	JAYASHREE	37	H	L	M	2A	6M	R	15D	16	3	3	-	T	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	4	B	-	7.6	NAD	NR	-	2
270	33329	08/02/10	SUNITA	35	H	IL	L	1	5M	R	6D	15	3	3	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	4	FT	-	10.9	NAD	NR	-	2
271	34218	09/02/10	TARABAI	35	H	IL	L	1	2M	IR	11D	16	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	11.2	NAD	NR	109	2
272	36760	11/02/10	KASHIBAI	25	H	IL	L	1	1YR	R	9D	18	2	2	1	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11	NAD	NR	-	2
273	31325	13/02/10	CHANDRABAG	30	H	L	L	2B	1YR	IR	10D	16	3	3	2	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	B	-	9.9	NAD	NR	-	2
274	38415	15/02/10	RENUKA	43	H	IL	M	3	6M	R	6D	17	3	3	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	1	NS	-	10	NAD	NR	-	2
275	38651	15/02/10	VIJAYALAKSHMI	45	H	IL	L	4	5YR	R	AM	13	2	2	1	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	NS	-	10.2	NAD	NR	106	2
276	38778	15/02/10	CHANDRAWWA	25	H	L	M	1	3M	R	15D	16	2	2	-	O	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	11.1	NAD	NR	-	2
277	41070	17/02/10	DEVAMMA	55	H	L	M	5	6M	R	AM	13	6	6	-	T	NAD	NAD	NAD	+	-	-	+	NAD	NAD	-	+	2	FM	-	8.6	NAD	NR	118	2
278	41140	18/02/10	RENUKA	36	H	IL	L	2A	6M	IR	12D	14	2	2	-	-	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	3	B	-	9	NAD	NR	-	2
279	42754	18/02/10	SUREKHA	35	H	L	M	1	6M	R	10D	14	2	2	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	10.1	NAD	NR	-	2
280	44458	20/02/10	SHOBHA	30	H	IL	L	6	-	R	15D	15	2	2	3	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	12	NAD	NR	-	2
281	45908	22/02/10	SHALINI	55	H	IL	L	2F	2M	R	AM	14	7	6	2	-	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	1	NS	MF	10.1	NAD	NR	138	2
282	45720	22/02/10	SUNANDA	25	H	IL	L	1	3M	R	16D	14	3	3	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	11.2	NAD	NR	-	2
283	48726	25/02/10	SAVITA	38	H	IL	L	1	6M	R	12D	19	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11.2	NAD	NR	-	2
284	48318	25/02/10	GANGAMMA	28	H	IL	L	2D	6M	IR	8D	16	3	3	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	FT	-	10.9	NAD	NR	-	2
285	50042	26/02/10	SHAILA	25	H	L	M	7A	3D	R	15D	15	2	2	-	O	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	3	NS	-	11.1	PC+	NR	-	2
286	51382	02/03/10	BAGAWWA	50	H	IL	L	1	4M	R	AM	13	6	4	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	10.9	NAD	NR	-	2
287	53680	03/03/10	CHANAMMA	31	H	IL	L	1	6M	R	6D	14	2	2	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	B	-	12.6	NAD	NR	-	2
288	55343	05/03/10	RAMAJANABI	40	M	IL	M	3	4M	R	15D	15	3	3	2	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	3	FT	-	10.8	NAD	NR	-	2
289	56776	06/03/10	SUDHA	23	H	L	M	2C	6M	IR	19D	19	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	11.9	NAD	NR	-	2
290	58708	10/03/10	GURUBAI	55	H	L	H	7C	2M	R	AM	24	3	3	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	11.1	PC+	NR	-	1
291	58667	10/03/10	DEVINDRAMMA	36	H	IL	L	1	1YR	R	6D	20	4	4	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	FT	-	10.6	NAD	NR	-	2
292	55338	11/03/10	SAROJINI	50	H	IL	L	1	2M	R	AM	16	9	8	2	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11.4	NAD	NR	148	2
293	61686	12/03/10	NEELAMMA	55	H	IL	L	3	6M	R	AM	16	4	4	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	5	NS	-	11.1	NAD	NR	112	2
294	65035	17/03/10	KAMALABAI	35	H	L	M	7A	3D	R	8D	13	3	3	-	C	NAD	NAD	BL	-	-	-	-	NAD	NAD	-	-	4	NS	-	10.1	PC+	NR	-	2
295	67641	18/03/10	NEELAWWA	45	H	IL	L	4	1YR	R	AM	16	4	4	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	10	NAD	NR	-	2
296	68402	20/03/10	BASAMMA	46	H	IL	L	1	3M	R	AM	17	2	2	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	FT	-	10.9	NAD	NR	140	3
297	66217	22/03/10	MANJULA	28	H	L	M	1	4M	R	6D	16	3	3	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11.2	NAD	NR	-	2
298	69290	23/03/10	KALAVATI	52	H	IL	L	3	4M	IR	AM	15	4	4	1	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	2	FT	-	12.2	NAD	NR	108	2
299	72642	26/03/10	RUKMINI	55	H	IL	L	4	2YR	R	AM	14	2	2	1	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	A	-	10.9	NAD	NR	-	2
300	74877	26/03/10	SHIVAGANGA	45	H	IL	L	6	-	R	AM	16	3	3	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	11.2	NAD	NR	-	2

MASTER CHART

										MH		OBH							GPE						PA				INV				
SN	IP/OP.No	DOE	NAME	A	R	ES	SE	CC	DU	PMC	LMP	Ama	P	L	A	S	PH	FH	PEH	A	L	V	PO	CVS	RS	T	M	PS	PV	PR	HB	U	HIV	RBS	CYD
301	77891	30/03/10	TARABAI	48	H	IL	L	1	4M	R	AM	17	4	4	-	-	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	2	NS	-	10.1	NAD	NR	122	2
302	78029	30/03/10	LAKSHMIBAI	47	H	IL	L	1	6M	R	AM	15	6	5	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11.4	PC+	NR	109	2
303	79434	01/04/10	NEELAMMA	48	H	L	H	5	6M	R	AM	14	9	9	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	+	3	16WK	-	10.6	NAD	NR	-	2
304	78988	03/04/10	LAKSHMI	45	H	IL	M	1	4M	R	6D	16	3	3	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	FT	-	11	NAD	NR	-	2
305	74878	05/04/10	BHIMBAI	50	H	IL	L	7B	1YR	R	AM	19	7	7	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	2	NS	-	10.4	NAD	NR	110	2
306	84563	07/04/10	JAKAMMA	35	H	L	M	6	-	R	6D	16	-	-	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	10.2	NAD	NR	-	2
307	88521	12/04/10	MEENAKSHI	35	H	IL	L	2A	6M	R	19D	15	3	3	-	-	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	4	B	-	8	NAD	NR	-	2
308	91319	15/04/10	LAKSHMI	35	H	L	L	7A	4D	R	9D	16	2	2	-	C	NAD	NAD	BL	-	-	-	-	NAD	NAD	-	-	3	NS	-	10	PC+	NR	-	2
309	90939	16/04/10	SUNANDA	37	H	L	M	7B	6M	R	12D	15	3	3	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	10.8	NAD	NR	-	2
310	92485	17/04/10	SHEELABAI	45	H	L	M	1	4M	R	10D	16	3	3	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	10.2	NAD	NR	-	2
311	96065	20/04/10	BHIMABAI	40	H	L	H	4	2YR	R	15D	17	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	NS	-	11.2	NAD	NR	124	2
312	95400	20/04/10	NAGESHWARI	37	H	L	M	6	-	R	5D	15	3	3	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	10.8	NAD	NR	-	1
313	96115	21/04/10	LAKSHMI	25	H	L	H	1	5M	R	12D	16	1	1	-	O	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11.6	NAD	NR	-	2
314	100346	26/04/10	SABAMMA	40	H	IL	L	6	-	R	10D	19	3	3	2	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	10.9	NAD	NR	-	1
315	100801	26/04/10	PRABA	35	H	L	M	1	6M	R	6D	13	2	2	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	4	FT	-	11.4	NAD	NR	-	2
316	102302	28/04/10	NIMBEWWA	48	H	IL	M	7C	6M	R	AM	14	3	3	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	10.6	PC+	NR	-	2
317	102788	29/04/10	SHIVAMMA	25	H	L	M	1	6M	R	8D	16	2	1	2	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	12.2	PC+	NR	-	2
318	103310	29/04/10	SAVITA	24	H	IL	L	2C	9M	IR	10D	17	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	10.8	NAD	NR	-	2
319	102768	29/04/10	KASTURIBAI	35	H	L	H	1	8M	R	10D	16	3	3	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11.4	NAD	NR	-	2
320	105064	30/04/10	ANITHA	35	H	L	M	7B	6M	R	15D	15	3	3	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	NS	-	12	NAD	NR	-	2
321	106770	03/05/10	SHANTAMMA	42	H	IL	L	2B	6M	R	15D	16	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	10.8	NAD	NR	-	2
322	106169	03/05/10	SUNITA	25	H	IL	L	1	5M	R	10D	19	3	3	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11.4	PC+	NR	-	2
323	108102	05/05/10	REVANAMMA	25	H	IL	L	1	6M	R	15D	16	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	3	FT	-	10.8	NAD	NR	-	2
324	108938	06/05/10	EMAMBI	60	M	IL	L	4	2YR	R	AM	13	6	6	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	A	-	10	NAD	NR	-	2
325	109326	08/05/10	GANGAMMA	42	H	L	M	1	5M	R	15D	15	3	3	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	NS	-	10.8	NAD	NR	-	2
326	111638	08/05/10	PARAVATI	53	H	IL	L	3	6M	R	AM	16	2	2	-	-	HT	NAD	NAD	-	-	-	-	NAD	NAD	+	-	4	B	-	9.8	NAD	NR	110	2
327	111490	08/05/10.	SUNANDA	35	H	IL	L	2D	1YR	IR	9D	14	3	3	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	10.9	NAD	NR	-	2
328	111759	08/05/10	SHREEDEVI	32	H	IL	H	1	5M	R	20D	13	6	6	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11.4	PC+	NR	-	2
329	113141	11/05/10	VISHNUKANTA	48	H	L	H	4	2YR	R	AM	14	4	4	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	NS	-	10.6	NAD	NR	-	2
330	113889	13/05/10	HASINA	40	M	IL	L	1	6M	R	10D	13	3	3	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	FT	-	11.2	NAD	NR	-	2
331	116673	15/05/10	KANTABAI	30	H	IL	L	2C	9M	IR	6D	14	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	10.8	NAD	NR	-	2
332	119224	19/05/10	RAJAKABAI	40	H	IL	L	1	5M	R	12D	15	4	4	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11	NAD	NR	108	2
333	119516	19/05/10	AMBIKA	28	H	L	M	1	6M	R	11D	16	3	3	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	10.8	NAD	NR	-	2
334	119205	19/05/10	INDRABAI	35	H	IL	M	2A	6M	R	10D	14	2	2	-	-	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	4	B	-	9	NAD	NR	-	2
335	120308	20/05/10	MAHADEVI	35	H	IL	M	1	4M	R	10D	13	3	3	1	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	FT	-	11.2	NAD	NR	-	2
336	121208	21/05/10	GOURAWWA	60	H	IL	L	4	2YR	R	AM	14	4	4	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	A	-	10.4	NAD	NR	124	2
337	123040	22/05/10	PRAMILA	58	H	L	M	4	2YR	R	AM	15	6	6	-	-	DM	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	A	-	11.2	NAD	NR	F102	2
338	122413	22/05/10	KANTABAI	30	H	IL	L	1	5M	R	15D	17	3	3	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	10.4	NAD	NR	-	2
339	124837	25/05/10	RAJABEE	25	H	IL	L	6	-	R	10D	16	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	10.4	NAD	NR	-	1
340	125496	26/05/10	BHARATI	43	H	L	M	3	4M	R	10D	19	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	3	NS	-	10.2	NAD	NR	-	2
341	129697	31/05/10	SUJATA	30	H	IL	L	1	6M	R	10D	13	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11	NAD	NR	-	2
342	133135	04/06/10	VAIJANTA	50	H	L	M	7C	4M	R	15D	16	9	9	1	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	2	NS	-	11.2	NAD	NR	134	2
343	133146	05/06/10	KAMALABAI	35	H	IL	L	3	6M	R	12D	17	3	3	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	1	NS	-	11.4	NAD	NR	144	1
344	135396	07/06/10	SHABANA	25	M	IL	L	1	1YR	R	15D	14	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	4	FT	-	12	NAD	NR	126	2
345	138757	10/06/10	VIJAYALAKSHMI	42	H	IL	H	4	2YR	R	8D	15	3	3	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	NS	-	10	NAD	NR	116	2
346	139279	11/06/10	HANAMAWWA	56	H	IL	M	7B	4M	R	AM	16	4	4	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	10.4	NAD	NR	-	1
347	136764	12/06/10	SOMAWWA	60	H	L	M	7C	5M	R	AM	17	6	6	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	2	NS	-	11.1	PC+	NR	-	1
348	141445	14/06/10	JUBEDA	35	M	IL	L	1	6M	R	10D	14	3	3	1	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	10.6	NAD	NR	114	2
349	141945	14/06/10	REYANA	40	M	IL	L	1	4M	IR	15D	16	4	4	2	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11.4	PC+	NR	-	2
350	145784	18/06/10	ASHA	44	H	L	M	3	1YR	R	10D	15	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	1	NS	-	10.2	NAD	NR	-	1

MASTER CHART

SN	IP/OP.No	DOE	NAME	A	R	ES	SE	CC	DU	MH		OBH				PH	FH	PEH	GPE				CVS	RS	PA		PS	PV	PR	INV				CYD
										PMC	LMP	Ama	P	L	A	S				A	L	V	PO			T	M				HB	U	HIV	RBS	
351	144512	18/06/10	NEELLAMMA	58	H	L	H	5	6M	R	AM	17	8	8	-	-	NAD	O	NAD	+	-	-	-	NAD	NAD	-	+	3	FM	MF	9.2	PC+	NR	124	2
352	144780	18/06/10	GANGAMMA	35	H	L	L	3	2M	IR	19D	14	3	3	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	1	FT	-	9.8	NAD	NR	141	2
353	144828	18/06/10	MALLAMMA	45	H	L	M	3	6M	R	6D	20	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11.1	PC+	NR	-	2
354	147157	21/06/10	MAHANANDA	25	H	IL	L	1	1Y6M	R	9D	17	1	1	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	10.8	NAD	NR	-	2
355	144478	21/06/10	MAHADEVI	40	H	IL	L	2A	6M	R	15D	22	3	3	-	-	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	1	B	-	9	NAD	NR	110	1
356	149626	23/06/10	BASAMMA	55	H	L	M	2F	2M	R	AM	16	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	2	NS	-	10.2	NAD	NR	-	2
357	149600	23/06/10	SHANTA	38	H	IL	L	1	6M	R	6D	18	4	3	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	1	FT	-	11.4	NAD	NR	116	2
358	155529	30/06/10	SUJATA	37	H	IL	L	1	4M	R	12D	17	4	4	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	FT	-	12.2	NAD	NR	-	2
359	156865	02/07/10	CHANNAMMA	41	H	IL	H	3	5M	R	10D	19	3	3	1	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	4	NS	-	11.1	NAD	NR	-	2
360	157733	02/07/10	MAHANANDA	40	H	IL	M	1	1YR	R	15D	20	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	10.4	PC+	NR	120	2
361	158414	05/07/10	ROOPA	30	H	L	M	1	5M	R	8D	14	2	2	2	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	FT	-	10.2	PC+	NR	106	2
362	159329	06/07/10	RAJESHREE	28	H	IL	L	2B	9M	IR	10D	16	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	B	-	11	NAD	NR	-	2
363	160279	06/07/10	DEEPIKA	24	H	L	L	1	6M	R	10D	14	3	3	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11.4	NAD	NR	-	2
364	162281	08/07/10	SUNANDA	45	H	L	H	4	1YR	R	10D	19	6	4	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	7P	NS	-	11.1	NAD	NR	110	2
365	161971	08/07/10	BASAMMA	35	H	IL	L	1	4M	R	8D	17	3	2	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	FT	-	10.9	NAD	NR	-	2
366	162118	08/07/10	TANGEWWA	40	H	IL	L	7C	3M	R	10D	15	3	3	-	-	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	4	NS	-	10	PC+	NR	142	1
367	165455	12/07/10	PRABA	35	H	IL	M	1	1YR	R	11D	16	3	3	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	12	NAD	NR	110	4
368	155201	13/07/10	KASTURI	36	H	L	M	7A	4D	R	15D	22	3	3	-	C	NAD	NAD	BL	-	-	-	-	NAD	NAD	-	-	4	NS	-	10	PC+	NR	120	2
369	162210	13/07/10	SUJATA	40	H	IL	L	3	3M	R	10D	19	4	5	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	5	NS	-	11	NAD	NR	-	2
370	162217	13/07/10	KALAMMA	45	H	IL	L	1	4M	R	AM	20	3	3	2	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	FT	-	10.3	NAD	NR	108	2
371	165865	14/07/10	PARVATI	55	H	L	M	1	5M	R	AM	18	7	4	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	FT	-	11.9	NAD	NR	110	2
372	167441	14/07/10	KAMALAWWA	45	H	IL	H	1	1YR	R	AM	16	5	5	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	FT	-	12.1	PC+	NR	-	2
373	167501	15/07/10	KULSUMBI	30	H	IL	L	1	6M	R	10D	19	2	2	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	FT	-	11.2	NAD	NR	-	2
374	169298	15/07/10	BHAGEERATI	48	H	IL	M	3	5M	R	12D	18	4	4	1	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	3	NS	-	10.8	NAD	NR	-	2
375	169515	15/07/10	PARAVATI	60	H	IL	L	4	2YR	R	AM	14	9	7	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	5	A	-	10.9	NAD	NR	-	2
376	170938	17/07/10	GEETA	30	H	IL	L	1	5M	R	10D	20	1	1	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	7P	FT	-	11.2	NAD	NR	110	2
377	167510	17/07/10	KUSUM	30	H	L	M	1	6M	R	16D	16	2	2	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	10.6	NAD	NR	-	2
378	168961	17/07/10	GANGAMMA	26	H	IL	L	2C	2YR	IR	10D	20	-	-	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11.2	NAD	NR	102	2
379	172062	19/07/10	PRABA	35	H	L	M	2A	4M	R	15D	19	4	4	-	-	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	5	B	-	9.2	NAD	NR	-	4
380	172430	19/07/10	MALLAMMA	40	H	L	M	1	5M	R	10D	16	3	3	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	1	FT	-	11.2	NAD	NR	-	2
381	174919	22/07/10	KASHIBAI	35	H	IL	L	2A	6M	R	10D	17	3	3	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11.1	NAD	NR	-	2
382	174991	22/07/10	BASAMMA	42	H	L	L	1	6M	R	10D	18	9	9	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	1	NS	-	12.2	NAD	NR	118	2
383	174870	22/07/10	SHANTAMMA	40	H	IL	L	3	5M	R	10D	15	9	8	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	3	NS	-	10.4	NAD	NR	-	2
384	175954	23/07/10	CHINNAWWA	52	H	IL	L	3	9M	R	AM	14	6	6	-	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	A	-	11.6	NAD	NR	129	4
385	176227	27/07/10	DEVAKEMMA	40	H	L	M	5	2YR	IR	20D	19	2	2	1	-	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	+	4	20WK	-	9.1	NAD	NR	120	2
386	180795	28/07/10	SHIVALINGAWA	40	H	IL	L	1	3M	R	10D	15	5	5	1	T	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	FT	-	10.2	PC+	NR	122	4
387	180032	28/07/10	VASANTA	37	H	IL	L	7A	4D	R	19D	17	-	-	-	-	NAD	NAD	BL	-	-	-	-	NAD	NAD	-	-	5	NS	-	11.6	NAD	NR	-	1
388	182039	29/07/10	REKHA	30	H	L	M	1	4M	R	16D	16	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	3	NS	-	11.2	NAD	NR	-	2
389	181316	30/07/10	SHOBA	29	H	IL	L	2C	2M	R	110D	18	2	2	1	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	10.9	NAD	NR	-	2
390	181309	30/07/10	CHANDBI	48	H	L	M	7C	6M	R	AM	19	6	6	3	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	11.6	NAD	NR	180	2
391	181321	30/07/10	RAJESHWARI	33	H	IL	L	1	5M	R	18D	16	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	11.4	NAD	NR	-	2
392	181909	30/07/10	SHAKUNTALA	29	H	L	M	3	6M	R	12D	14	2	2	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	+	-	5	FT	-	10	NAD	NR	-	2
393	181324	30/07/10	SAROJA	32	H	IL	L	1	6M	R	22D	15	4	3	2	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	FT	-	10.9	NAD	NR	134	2
394	181338	30/07/10	SHRIDEVI	26	H	IL	L	2B	8M	IR	10D	13	2	2	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	10.1	NAD	NR	-	2
395	179241	31/07/10	AMBUBAI	52	H	L	M	1	1YR	IR	AM	16	4	4	-	-	NAD	C	BL	+	-	-	-	NAD	NAD	-	-	4	NS	-	9.2	PC+	NR	122	5
396	183209	31/07/10	SHRIDEVI	42	H	IL	L	2A	6M	R	9D	17	4	4	-	-	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	5	B	-	9	NAD	NR	114	2
397	186958	31/07/10	DEVAKEMMA	46	H	IL	L	7B	4M	R	AM	18	5	5	-	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	4	NS	-	10	NAD	NR	-	2
398	188485	31/07/10	TANGEMMA	26	H	L	H	1	6M	R	5D	15	2	2	-	C	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	3	NS	-	11	NAD	NR	126	2
399	189725	31/07/10	L V PATIL	45	H	L	M	4	4YR	R	AM	20	3	3	1	-	NAD	NAD	NAD	-	-	-	-	NAD	NAD	-	-	7P	NS	-	10	NAD	NR	-	2
400	193105	31/07/10	BASAMMA	54	H	IL	L	1	2M	R	AM	14	9	8	-	-	NAD	NAD	NAD	+	-	-	-	NAD	NAD	-	-	3	FT	-	10.1	NAD	NR	129	5