

Article [PDF Available](#)

A Study of Association of Mean Platelet Volume with Risk and Severity of Ischaemic Stroke in One Hundred Cases

July 2020 · [Journal of Evidence Based Medicine and Healthcare](#) 7(29):1433-1437DOI: [10.18410/jebmh/2020/303](https://doi.org/10.18410/jebmh/2020/303)

Authors:



Anand P. Ambali



Sonam R

[Download full-text PDF](#)[Read full-text](#)[Download citation](#)[Copy link](#)[References \(26\)](#)[Figures \(1\)](#)

Abstract and Figures

BACKGROUND 'Stroke' is an abrupt onset of a neurologic deficit that is attributable to a focal vascular cause. Because of the rise in ageing population, the burden of stroke is likely to increase exponentially in the near future. Mean Platelet Volume (MPV), a marker and possibly a determinant of platelet function is a physiological variable of haemostatic importance. Platelet count is an index of haemostasis. Changes in MPV play a more important role in haemostasis than platelet count. So far, very few studies have looked at the association between platelet size and its relation to causation of ischaemic stroke. This study was carried out to determine as to whether elevated mean platelet volume level is an independent risk factor for ischaemic stroke and also to evaluate its relationship with severity of ischaemic stroke using modified Rankin Scale. METHODS One hundred patients above 18 years of age, irrespective of sex admitted with first episode of ischaemic stroke within 24 hours of onset of symptoms, diagnosed based on clinical and radiological features, were included in the study. Mean platelet volume was measured on admission before administration of antiplatelet drugs and severity of the stroke was assessed using modified Rankin Scale at the time of presentation. RESULTS Out of hundred patients, 61% were males and 39% were females. Patients in the age group of 40 to 60 years were 39%, while 38% were aged between 60 - 80 years. The comorbid conditions present were hypertension in 44% and diabetes mellitus in 20%. MPV was same among all the age groups with a mean value of 10.30, and the 'p' value was 0.952 which is statistically not significant. The clinical severity of stroke at presentation as determined by the modified Rankin Scale was severe disability in 53% of the cases. The relation of MPV to severity of stroke was also statistically not significant. There was no mortality in this study group. CONCLUSIONS MPV levels has got no statistically significant correlation with ischaemic stroke. This study also did not find a statistically significant correlation between clinical severity of stroke and mean platelet volume.

Discover the world's research

- 17+ million members
- 135+ million publications
- 700k+ research projects

[Join for free](#)[Public Full-text](#) (1)

A Study of Association of Mean Platelet Volume with Risk and Severity of Ischaemic Stroke in One Hundred Cases

Anand P. Ambali¹, Sonam R.²

¹Professor, Department of General Medicine, BLDE DU, Shri B. M. Patil Medical College Hospital and Research Centre, Vijayapura, Karnataka, India. ²Postgraduate Student, Department of General Medicine, BLDE DU, Shri B. M. Patil Medical College Hospital and Research Centre, Vijayapura, Karnataka, India.

ABSTRACT

BACKGROUND

'Stroke' is an abrupt onset of a neurologic deficit that is attributable to a focal vascular cause. Because of the rise in ageing population, the burden of stroke is likely to increase exponentially in the near future. Mean Platelet Volume (MPV), a marker and possibly a determinant of platelet function is a physiological variable of haemostatic importance. Platelet count is an index of haemostasis. Changes in MPV play a more important role in haemostasis than platelet count. So far, very few studies have looked at the association between platelet size and its relation to causation of ischaemic stroke. This study was carried out to determine as to whether elevated mean platelet volume level is an independent risk factor for ischaemic stroke and also to evaluate its relationship with severity of ischaemic stroke using modified Rankin Scale.

METHODS

One hundred patients above 18 years of age, irrespective of sex admitted with first episode of ischaemic stroke within 24 hours of onset of symptoms, diagnosed based on clinical and radiological features, were included in the study. Mean platelet volume was measured on admission before administration of antiplatelet drugs and severity of the stroke was assessed using modified Rankin Scale at the time of presentation.

RESULTS

Out of hundred patients, 61% were males and 39% were females. Patients in the age group of 40 to 60 years were 39%, while 38% were aged between 60 - 80 years. The comorbid conditions present were hypertension in 44% and diabetes mellitus in 20%. MPV was same among all the age groups with a mean value of 10.30, and the 'p' value was 0.952 which is statistically not significant. The clinical severity of stroke at presentation as determined by the modified Rankin Scale was severe disability in 53% of the cases. The relation of MPV to severity of stroke was also statistically not significant. There was no mortality in this study group.

CONCLUSIONS

MPV levels has got no statistically significant correlation with ischaemic stroke. This study also did not find a statistically significant correlation between clinical severity of stroke and mean platelet volume.

KEYWORDS

Stroke, Mean Platelet Volume, modified Rankin's Scale, Severity

Corresponding Author:

*Dr. Anand P. Ambali,
Department of General Medicine,
Geriatric Clinic,
BLDE DU, Shri B. M. Patil Medical College
Hospital and Research Centre,
Vijayapura, Karnataka, India.
E-mail: anand.ambali@bldedu.ac.in*

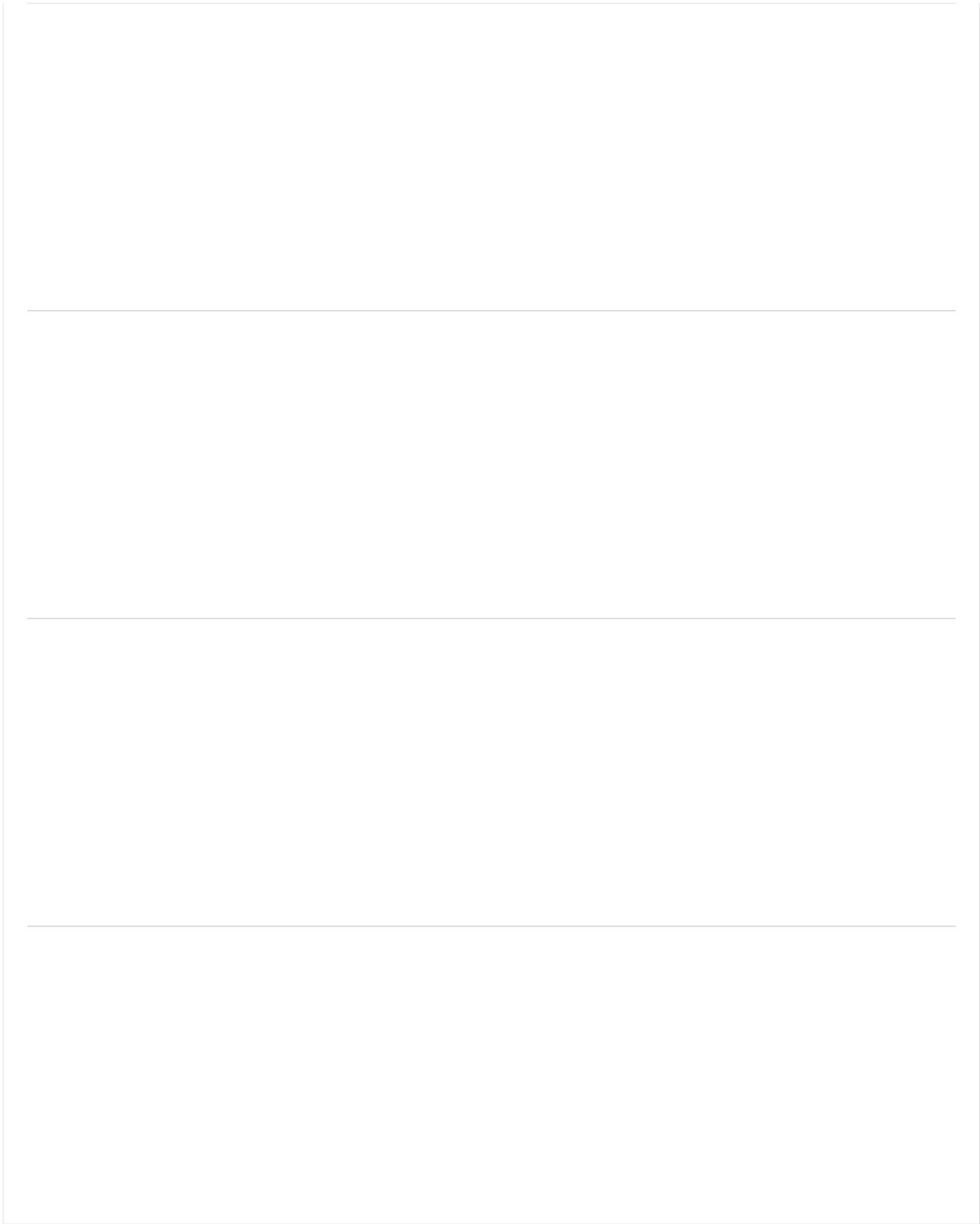
DOI: 10.18410/jebmh/2020/303

How to Cite This Article:

Ambali AP, Sonam R. A study of association of mean platelet volume to risk and severity of ischaemic stroke in one hundred cases. J. Evid. Based Med. Healthc. 2020; 7(29), 1433-1437. DOI: 10.18410/jebmh/2020/303

*Submission 14-04-2020,
Peer Review 24-04-2020,
Acceptance 18-05-2020,
Published 20-07-2020.*

Copyright © 2020 JEBMH. This is an open access article distributed under Creative Commons Attribution License [Attribution 4.0 International (CC BY 4.0)]




Citations (0)

References (26)

Platelets and stroke

Article [Full-text available](#)

Aug 1999 · [Vasc Med](#)

N.M. Smith · Rohan Pathansali ·  Philip Michael Bath

[View](#) [Show abstract](#)

A Prospective Study of Role of Mean Platelet Volume in Predicting Stroke Type and its Severity

Article

Mar 2018

Dr M. Sridharan

[View](#)

Platelet Heterogeneity: Biology and Pathology

Book

Jan 1990

John Martin · Anthony Trowbridge

[View](#) [Show abstract](#)

MEAN PLATELET VOLUME AND RISK OF THROMBOTIC STROKE

Article

Jul 2017

Prasantha Kumar Thankappan · Anu Wilson · Mohanan Mohanan

[View](#) [Show abstract](#)

A Study of Association of Mean Platelet Volume and Ischaemic Stroke

Article

Nov 2016


 Nirankar Singh Neki · Nehal Minda · Ankur Jain

[View](#)

Arachidonic acid metabolism by platelets of differing size

Article

Mar 1983 · [Br J Haematol](#)



 Joseph Jakubowski · Craig B. Thompson · R Vaillancourt · D Deykin

[View](#) [Show abstract](#)

Contemporary Outcome Measures in Acute Stroke Research

Article

Nov 2011 · [Stroke](#)

Kennedy R Lees ·  Philip Michael Bath ·  Peter Schellinger · for the European Stroke Organisation Outcomes Working Group

[View](#)

Mean Platelet Volume May Represent a Predictive Parameter for Overall Vascular Mortality and Ischemic Heart Disease

Article

Feb 2011 · [Arterioscler Thromb Vasc Biol](#)

Georg Slavka ·  Thomas Perkmann ·  Helmuth Haslacher ·  Georg Endler

[View](#) [Show abstract](#)

The relationship of mean platelet volume (MPV) with the risk and prognosis of cardiovascular diseases

Article

Oct 2009 · [Int J Clin Pract](#)

 Luca Vizioli · Silvia Muscari · Antonio Muscari

[View](#) [Show abstract](#)

Functional outcome measures in contemporary stroke trials

[Article](#)

Jul 2009 · [Int J Stroke](#)

● Terence J Quinn · Jesse Dawson · Matthew Walters · Kennedy R Lees

[View](#) [Show abstract](#)



[Show more](#)

Recommended publications [Discover more](#)

Article [Full-text available](#)

A Study of Platelet Indices in Patients of Acute Ischemic Stroke :: A Prospective Study

August 2017 · IOSR Journal of Dental and Medical Sciences

Priyanka Meena ·  Manika Khare · Ashish Airun · [...] ·  Anudeep Saxena

A A S St tu ud dy y o o f f P P l l a a t t e e l l e e t t I I n n d d i i c c e e s s i i n n P P a a t t i i e e n n t t s s o o f f A A c c u u t t e e I I s s c c h h e e m m i i c c S S t t r r o o k k e e : : A A P P r r o o s s p p e e c c t t i i v v e e S S A A b b s s t t r r a a c c t t I I n n t t r r o o d d u u c c t t i i o o n n : : C C e e r r e e b b r r o o v v a a s s c c u u l l a a r r d d i i s s e e a a s s e e m m i i c c a a t t e e t t e e s s . . I I n n t t h h i s s s t t u u d d y y , , w w e e c c o o n n s s i i d d e e r r e e d d t t h h a a t t t t h h e e m m o o s s t t c c o o m m o o n n a a n n d d d d e e v v a a s s t t a a t t i i n g g d d i i s s o o r r d d e e r r s s a a f f t t e e r r c c o o r r o o n n a a r r y y h h e e a a r r t t d d i i s s e e ((C C H D D)) a a n n d d c c a a n n c c e e r r o o f f a a l l t t y y p p e e s s . . I I n n n o o r r m m a a l l ... [\[Show full abstract\]](#)

[View full-text](#)

Article [Full-text available](#)

Could Mean Platelet Volume Be a Reliable Indicator for Acute Mesenteric Ischemia Diagnosis? A Case-C...

January 2016 · BioMed Research International

Vermi Degerli ·  Işıl Ergin ·  Fulya Yılmaz · [...] · Ozgur Duran

Objective . Acute mesenteric ischemia (AMI) is a disease, usually seen in elderly people and accompanied by comorbid diseases. Mean platelet volume (MPV), the significant indicator of platelet activation and function, is associated with AMI. In this study, we considered that we can use MPV as a reliable indicator in the diagnosis of AMI. Methods . This study was conducted among AMI patients with ... [\[Show full abstract\]](#)

[View full-text](#)

Article

Clinical profile and changes in values of mean platelet volume among panic disorder patients

January 2018 · Archives of Mental Health

Sanjay Yalamanchili · SaiKiran Pasupula · Raviteja Chilukuri

[Read more](#)

Article

A Prospective Study of Role of Mean Platelet Volume in Predicting Stroke Type and its Severity

March 2018

Dr M. Sridharan

[Read more](#)

Last Updated: 28 Jul 2020



Company

[About us](#)

Support

[Help Center](#)

Business solutions

[Advertising](#)

