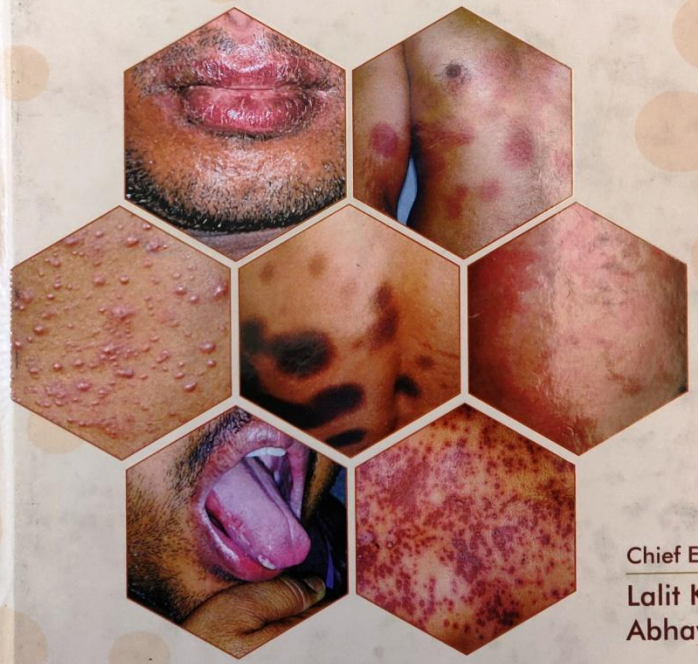
IADVL's Textbook on

CUTANEOUS ADVERSE DRUG REACTIONS

A Comprehensive Guide



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Chapter 29

Anaphylaxis and Anaphylactoid Drug Reaction Patterns

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SUMMARY

Drug-induced anaphylaxis and anaphylactoid reactions are potentially life-threatening conditions requiring immediate multidisciplinary management. Penicillin is the most studied drug causing anaphylaxis. As newer drugs are marketed, occurrence of these reactions is on the rise. Currently, anesthetics, neuromuscular blockers, nonsteroidal anti-inflammatory drugs (NSAIDs), and newer antibiotics are the leading causes of anaphylaxis and anaphylactoid reactions. Anaphylaxis is due to IgE-mediated degranulation of mast cells and basophils; same mechanism is operative in anaphylactoid reactions, but without the involvement of IgE. Main presenting features include urticaria, angioedema, excess salivation and lacrimation, palpitation, vomiting and purging, restlessness, stridor, hypotensive shock, syncope, etc. Diagnosis is mostly based on history and clinical features. The available laboratory tests are not sensitive or specific. Adrenaline is the drug of choice. The patient must be managed in supine position with other life-support measures. Main causes of mortality are cardiovascular and respiratory compromise. Following an acute episode, patient must be observed in hospital so that late reaction is not missed. At the time of discharge, an information tag regarding the drug and outline of management must be provided to the patient. Detection of drug-induced mast cells and basophil-activation markers and estimation of drug-specific cytokines and chemokines shall bring a ray of hope in specific diagnosis of these reactions in future. In India, emergency physicians must be trained in the management of anaphylaxis.

INTRODUCTION

Anaphylaxis is an IgE-mediated immediate hypersensitivity reaction induced by various exogenous agents, presenting with abrupt onset, severe cutaneous, and systemic symptoms which may be potentially life-threatening and require immediate intervention.[1] The term "anaphylaxis" was coined by French physiologists Charles Richet and Paul Portier[2]. Discovery of this dramatic life-threatening condition succeeded Charles Richet to win Nobel Prize in 1913.[2]

Anaphylactoid reactions are symptom complexes similar to anaphylaxis but without the involvement of IgE in mast cell activation.

Anaphylaxis and anaphylactoid reactions can be mediated by various exogenous factors such as foods, drugs, venomous insect sting, and sometimes may be idiopathic. The discussion in this chapter will be restricted to drug-induced anaphylaxis and anaphylactoid reactions.

ANAPHYLAXIS

Epidemiology

Lifetime prevalence of anaphylaxis of any etiology is around 0.05–2%[1]; approximately 50% being triggered by food.[3] The incidence of drug-induced anaphylaxis is 1 in 5000 drug exposures (1 in 50,000–100,000 patients treated with penicillin may develop anaphylaxis).[4] Fatality has been recorded in <10% cases.[4] Penicillin is the most studied drug to understand anaphylaxis.[5] The rate of fatal anaphylaxis due to penicillin has been recorded to be 0.002%.[5] With widespread use of various newer drugs, the frequency of anaphylaxis is on the rise.[4,6]

Risk Factors

Various risk factors have been identified; although