Anaphylaxis: Unveiling the Silent Killer

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In a world where medical advancements have made remarkable strides, it's disconcerting that a condition as lethal and insidious as anaphylaxis remains relatively underemphasised. Anaphylaxis, often referred to as a "silent killer," is a severe and potentially life-threatening allergic reaction that demands urgent attention, recognition, and awareness. This life-threatening condition has recently gained attention in Sri Lanka following a few unfortunate fatal cases. It leaves the responsibility of disseminating the current updates in diagnosing and management on this important clinical entity, where the specialities of anaesthesiology and critical care thrive in an important place.

Several definitions of anaphylaxis exist, explaining anaphylaxis as an acute life-threatening condition. World Allergy Organization defines it as an acute, potentially life-threatening, systemic hypersensitivity reaction caused by the sudden release of mast cell mediators.[1] It most often results following exposure to reactions to foods, drugs, insect stings, or any agent capable of inciting a sudden, systemic degranulation of mast through an immunoglobulin E (IgE)-mediated reaction.[2] These chemicals set off a cascade of symptoms that can affect multiple systems within the body, often causing respiratory distress, plummeting blood pressure, and cardiovascular collapse. The severity of the reaction can vary, with some cases evolving slowly and others escalating rapidly within minutes. This unpredictable nature makes anaphylaxis a daunting adversary, lurking in the shadows and catching victims off guard.

Recent publications have shown a global incidence of anaphylaxis between 50 and 112 episodes per 100,000 person-years, while the estimated lifetime prevalence is 0.3–5.1%, with variations depending on the definitions used, study methodology, and geographical areas.[3,4] Several population-specific studies have noted a rise in the incidence, particularly in hospitalisations and ER visits due to anaphylaxis[(2)]. It is important to discuss the 2 important questions: why are there so many cases of fatal anaphylaxis? Is there any factor that has changed over the years? A proper study should be carried out in order to identify a ground cause for this new development.

Although no apparent cause is found, there has been a rise in the number of media-reported anaphylaxis-related deaths in Sri Lanka as well. Most reported cases are

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related to in-hospital anaphylaxis, mainly stated following Antibiotic ceftriaxone.

It's essential to recognise that anaphylaxis is not a mere inconvenience but a true medical emergency demanding immediate action. Are there any gaps in diagnosing anaphylaxis early? This question is important to consider as this may lead to an increase in the number of fatal cases. One of the treacherous aspects of anaphylaxis is its ability to mimic less severe conditions, leading individuals and even healthcare professionals to underestimate its seriousness. Initial symptoms, such as itching, hives, or a runny nose, can be misconstrued as minor allergic reactions, delaying the administration of life-saving treatment. A review performed by Wallace D has highlighted the importance of consensus-based diagnosing criteria to be used uniformly in all clinical areas.[5] He has also stressed the importance of improving the knowledge among the public in order to have prompt recognition. College of Anaesthesiologists and Intensivists of Sri Lanka, along with the Ministry of Health – Sri Lanka, conducted an island-wide education campaign among healthcare workers in August 2023 to improve knowledge on anaphylaxis. These types of programmes are commendable and should be carried out more frequently.

Delays in treatment of anaphylaxis can increase mortality and morbidity.[6] Hence, the question can arise whether there are gaps in treating anaphylaxis.? Intra-muscular adrenaline remains the definitive treatment of choice for anaphylaxis in most of the guidelines. Controversies exist among healthcare workers about the route of adrenaline in anaphylaxis. Adrenaline administered by the intramuscular route is well-tolerated in contrast to the intravenous route, where potentially fatal arrhythmias can occur as a result of bolus administration.[7,8] Hence, the intravenous route is not recommended for the initial treatment of anaphylaxis. If used, it should be administered in monitored patients by personnel with experience in diluting and administering the correct doses. It should preferably be given as an intravenous infusion via an infusion pump.[9] Self administration of intra-muscular adrenaline is practiced by patients with repeated anaphylaxis using commercial devices. Reports have also shown that the use of intra-muscular adrenaline remains sub-optimal in most cases. [1,10,11]

Research has shown that knowledge gaps exist in the use of adrenaline, including route of administration, dosage, needle length, and ideal timing for administration among healthcare workers and the general public.[5] As far as self-managing patients are concerned, these calls for consensus on when and how many adrenaline autoinjectors to prescribe and how to prevent patient under-usage and accidental injury.

Education and awareness are pivotal in unveiling this silent killer. Public understanding of anaphylaxis must be bolstered to ensure timely recognition and intervention. Schools, workplaces, and public spaces should prioritise education about the condition, enabling individuals to recognise the signs and administer adrenaline when needed. By fostering a society that is well-informed about anaphylaxis, we can collectively reduce its impact and save lives. Moreover, empowering medical professionals to engage in open and comprehensive conversations with patients about their

allergies could make the difference between life and death.

Legislation and policies should also reflect the gravity of anaphylaxis. Access to adrenaline autoinjectors should be simplified and encouraged, particularly in public spaces where the risk of exposure to allergens is high. Schools, restaurants, sports venues, and airports should be equipped with these devices, much like automated external defibrillators (AEDs) are now commonly found in public spaces. In Sri Lanka, the availability of such devices is scarce and expensive.

In conclusion, anaphylaxis's status as a silent killer demands a resounding response from society. It's imperative that we must shed light on this hidden threat through education, awareness, and policy changes. Doing so empowers individuals to recognise the signs, administer timely treatment, and advocate for their own safety. In a world fraught with risks, we must ensure that anaphylaxis is no longer allowed to operate in the shadows, lurking as a silent, deadly menace.

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