

Kounis syndrome: Aspects of incidence and epidemiology

To the Editor: Kounis syndrome is a hypersensitivity coronary disorder induced by environmental factors, foods, drugs, conditions and stents. It manifests as coronary spasm, acute myocardial infarction and stent thrombosis, and affects the cerebral, mesenteric and coronary arteries. Allergic, hypersensitivity, anaphylactic and anaphylactoid reactions are associated with this syndrome. Kounis syndrome has been observed in every race, age group (2 - 90 years) and geographical location.^[1] It is not a rare disease, but it is infrequently reported in clinical practice because of missed, unrecognised and/or undiagnosed cases. Furthermore, there is a paucity of large prospective trials, determining its prevalence and exact incidence. In a very interesting report published in the *SAMJ*^[2] a 39-year-old man with a previous history of exercise-induced asthma and allergy to cefixime developed type I Kounis syndrome following an allergic reaction to ciprofloxacin. The authors correctly commented on the paucity of data concerning the incidence and prevalence of Kounis syndrome in South Africa and elsewhere. We therefore consider the following aspects on its incidence and epidemiology to be of additional value:

The incidence of anaphylaxis with circulatory symptoms is estimated at 7.9 - 9.6/100 000 inhabitants per year with a case fatality rate of 0.0001%.^[3]

In the only retrospective study published so far, the incidence of Kounis syndrome at emergency departments in 1 year among all admissions and allergy patients was 19.4/100 000 (27/138 911) and 3.4% (27/793), respectively.^[4]

Of the 51 cases of Kounis syndrome reported to the International Pharmacovigilance Agency (VigiBase) in the period 2010 - 2014, almost half (22 reports) were in 2014. Most cases occurred in the USA, and non-steroidal anti-inflammatories were the most frequent trigger drugs.^[5]

Kounis syndrome prevalence was estimated to be at 0.002% in the catheterisation laboratory of a tertiary hospital in Istanbul, Turkey.^[6]

The annual incidence of Kounis syndrome in the district of Achaia, Greece, with a population of 300 000 inhabitants, was estimated at 4.33 cases/100 000 inhabitants.^[7]

Troponin levels were found to be significantly raised in 31 patients admitted to the emergency department and suffering from anaphylaxis, angioedema, urticaria and urticaria-angioedema in comparison with 125 healthy controls. Systematic troponin measurement in patients with acute allergic reactions is advisable in order to detect and treat potential myocardial injury.^[8]

Finally, in 300 anaphylaxis cases, myocardial injury was present in 7.3% of patients. Various cardiomyopathies, including Kounis syndrome and Takotsubo cardiomyopathy, were also observed in patients with myocardial injury.^[9]

All the above denotes that the incidence of Kounis syndrome is higher than it has been estimated so far. Kounis syndrome has mostly been encountered in southern Europe, especially Turkey, Greece, Italy and Spain.^[10] This geographical variation could be attributed to the increased awareness of physicians of the existence of Kounis syndrome, climate and environmental conditions that result in pollen cross-reactivities and hymenoptera exposures, overconsumption of medicines, or inadequacy of preventative measures. It is anticipated that with increased awareness of the existence of Kounis syndrome and the conducting of large prospective trials, the true estimation of its incidence will be achieved.

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