resulting in severe allergic reaction and/or development of Kounis syndrome.¹⁰

Therefore, practicing physicians and pathologists should keep in mind all of these pathologies in cases of fatal bee stinging events, and when pathologic examination is regarded as necessary, they should always look for myocardium and especially coronary artery infiltration by inflammatory cells such as mast cells and eosinophils. This, together with postmortem bone marrow examination and serum tryptase estimation, would help in elucidating the cause of sudden death and in particular the manner of death.

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In Reply to Drs Kounis, Kounis, Soufras, and Patsouras

To the Editor:

Professor Nicholas G Kounis and colleagues¹ are owed high appreciation for expressing their expert opinion on confirming the diagnosis of anaphylaxis and mechanisms of sudden cardiac arrest associated with acute anaphylaxis. They agree with our findings that anaphylaxis was the probable cause of the tragic of death caused by *Xylocopa tranquebarica* sting in our report.

The value of postmortem tryptase analysis has been highlighted as a sensitive and specific measurement to diagnose anaphylaxis. It is interesting to read their remarks on coronary artery histology: “We have recently emphasized that the heart and especially the coronary arteries should be regarded as main organs and primary target of anaphylaxis serving as a primary door through which life crosses to death.”¹ We fully agree with this statement, which is applicable to the index case where the patient died without leaving time for development of mucocutaneous and pulmonary manifestations of anaphylaxis.² We are aware of Kounis syndrome and have experienced this specific manifestation in hornet stings and drug allergies leading to acute coronary syndrome in Sri Lanka.^{3,4} In type 1 Kounis syndrome, coronary artery spasm is the mechanism of cardiac ischemia that may result in sudden cardiac arrest and death. In such events, histological examination of the coronary arteries will assist in establishing the diagnosis. In addition, undue host susceptibility to anaphylaxis has been highlighted as a possible KIT mutation. Finally, dissemination of these novel concepts will lay the foundation for development of new therapeutic agents and strategies to prevent deaths from acute anaphylaxis.

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In Response to Risk of Avalanche Involvement in Winter Backcountry Recreation: The Advantage of Small Groups by Zweifel et al

To the Editor:

Zweifel et al¹ investigate the relationship between avalanche risk and group size. They find that groups of 4 or more have a higher relative risk of an avalanche accident than individuals or groups of 2. Multiple websites popular among backcountry skiers have interpreted this finding as evidence that solo backcountry skiing might be safer than being in a group.^{2–4} These commentators seem to have overlooked that Zweifel et al focus on the relative risk of a group being involved in an accident. This is not the same as the relative risk of an individual in a group being involved in an accident. In fact, the empirical findings of Zweifel et al indicate that the risk of an individual being the victim of an avalanche accident is approximately independent of group size.

Suppose that the probability that an individual is involved in an avalanche is independent of group size. If we say that a group was involved in an avalanche if 1 or more individuals in the group were involved, then we would expect the probability that a group has an accident to be roughly proportional to group size. To be exact, if the probability of an individual accident is p , then the probability that a group of size n has an accident is $1 - (1 - p)^n \approx np$. The relative risk of a group of size n compared with a group of size 2 is $1(1p)^n/1(1p)^2 \approx 2n$. The relative risk estimates of Zweifel et al

very closely follow this pattern. For almost all group sizes and data sources, the 95% confidence interval for relative risk contains the relative group risk that one would expect if individual accident risk were independent of group size (the 2 exceptions are Davos self-registration with a group of size 4 and Tyrol with a group of 1).

Given that this article has been of interest to many backcountry skiers, it is important to communicate the results in manner that is easy for anyone to understand and incorporate into their decision making. I would emphasize the following: The results suggest that the probability that an individual gets in an accident is approximately independent of group size. The probability that someone else in a group is involved in an accident increases with group size, but not any more than would be expected from adding independent events. It is approximately equally likely that a person among 3 groups of 2 will have an accident as it is that a person in 1 group of 6 will. This is somewhat counterintuitive in that the 3 groups of 2 are likely to choose different routes, and so would be exposed to more potential avalanche terrain than a group of 6 that travels together. In this sense, there is some evidence in favor of the conventional wisdom that larger groups make poorer decisions. On the other hand, individual accident risk appears to be about the same regardless of group size, and a larger group would likely be more effective for companion rescue.

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