

Should surgery proceed or be abandoned after intra-operative anaphylaxis? A reply

We thank Sun and Hung for their interest in our paper, which is the first to consider how to manage the factor that defines peri-operative anaphylaxis: surgery itself [1]. Continuing with the planned procedure can theoretically influence either the natural course of anaphylaxis or attempts to effectively treat it, so we think it was entirely appropriate to consider a composite-outcome measure, including complications or sequelae that arose as a result of anaphylaxis or its subsequent treatment. As anaphylaxis will always be treated appropriately [2], we think that the source of adverse events is of little practical importance. All that is relevant to the question asked is whether patient outcomes are comparable between the cohort of patients in whom surgery proceeded and those in which it did not.

We observed that completing or abandoning surgery resulted in no clinically important difference in the rate of complications attributable to anaphylaxis or its management, in patients with major acute hypersensitivity reaction grades 1, 2 or 3. It was also evident from our research that surgery frequently proceeded, even though there are no objective criteria for successful resuscitation. The question of whether to proceed or not has never been considered by treatment algorithms, and there are no previously published guidance for clinicians, so we can only surmise that clinicians used subjective criteria to decide when to proceed with, or abandon, surgery. As our study has not detected an excess complication rate when either course is followed, we can only recommend that clinicians continue to use subjective – and the reason-based criteria outlined in our discussion – to decide if and when to continue with surgery.

We observed that anaphylaxis occurred in younger, healthier patients, possibly related to age-related

immunosenescence and the population age-distribution in Western Australia (median 36 years). We stated in our paper that '*there are limits to... the applicability of this study to other populations*', including those with higher operative risks, or surgical procedures not represented in our cohorts (vascular, neurosurgical or otorhinolaryngologic cases were present in small numbers in our study), and we recommend that clinicians need to repeat our work in these groups, with the aim of developing objective criteria for clinicians to follow when anaphylaxis occurs intra-operatively.

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