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Subclinical compartment syndrome following tibial fractures: Is this cause of morbidity more common than we think?

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Introduction: Subclinical compartment syndrome (SCS) following tibial fractures may lead to long-term disability. Acquired clawing of the toes is one symptom attributed to it, if acute compartment syndrome (ACS) or injury to muscle bellies at the fracture site, have not occurred. However, there are very few reports of SCS in the current literature and to our knowledge; no study to date has examined its prevalence. This study therefore aims to be the first to quantify the prevalence of SCS following tibial fractures.

Methods: Questionnaires were sent to 349 patients one year post-tibial fractures sustained between 2009 and 2011, followed by a retrospective case note review.

Results: Of 90 responders, 2.2% (n=2) reported ongoing claw toes. 33% (n=30) were asymptomatic but 18% (n=16) complained of persistent stiffness, numbness and weakness of the limb, of whom 11 had undergone internal fixation.

Conclusion: We conclude that our 2 patients with claw toes had both suffered from SCS, given that neither ACS nor muscle-belly injuries had occurred. Moreover, given the prevalence of patients suffering with ongoing stiffness, numbness and weakness even one year after internal fixation, we suspect that the incidence of SCS may in fact have been even higher. This is the first study attempting to quantify the prevalence of SCS following tibial fractures (at least 2%). Given this prevalence, and the associated long-term morbidity due to toe clawing, we argue the paramount importance of surgeons being aware of SCS and actively seeking this diagnosis.

Biography

Samantha Low graduated with first class honours in biomedical materials engineering before embarking on a fast track medicine course, graduating with distinctions in clinical medicine and science in 2011. She started out as a surgical resident and completed her surgical membership exam before deciding to switch careers. She is currently a year 1 radiology resident and is keen to expand her research portfolio with a PhD in the near future.

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