Breslow thickness and nodular tumour type

I read the recent publication on predictors for melanoma with great interest.[1] Cadili and Dabbs reported that "Breslow thickness and nodular tumour type were independent factors significantly correlated with a positive [sentinel lymph node (SLN)] biopsy result in our study."[1] Indeed, Paek and colleagues[2] recently proposed using factors beyond Breslow depth to determine the risk of positive SLN status in patients with cutaneous melanoma. They noted that "Younger age, increasing mitotic rate (especially in younger patients), increasing Breslow depth (especially in older patients), angiolymphatic invasion and trunk or lower extremity location of the primary tumor were associated with a greater likelihood of positive SLN status."[2] It is interesting that the 2 studies[1,2] identified different factors. This reflects the nature of simple cross-sectional study. The identified factors might be by chance. The detected difference in different publications might imply the unreliability of the identified factors. A large multicentre or metanalysis might be required to draw final conclusions on this topic.

Viroj Wiwanitkit, MD
Wiwanitkit House
Bangkhae, Bangkok
Thailand

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The consensus statement on mixed martial arts: emotion, not evidence-based

We read with great concern the recent action item of our mothership organization, the Canadian Medical Association (CMA), regarding an immediate ban on all mixed martial arts (MMA) in Canada.[1] This statement, supported by the majority of voting delegates at the most recent CMA General Council meeting, is comparable in spirit to a similar CMA position on boxing in 2001. We find it particularly intriguing that MMA is singled out from both other martial arts activities, as well as other "contact" sports. To be specific, past CMA president Dr. Dirnfeld called the sport "savage and brutal."

Although our practice of the science of medicine is supposed to be evidence-based, this statement appears to be emotional in nature. Despite working at the nation's busiest trauma centre (Foothills Medical Centre, with 1100 severely injured patients per year with an Injury Severity Score greater than 12), our 8 trauma surgeons have yet to admit an MMA combatant. This is in the context of a province with its own active MMA league. These data, of course, are anecdotal and worth little in a modern academic setting. On review of the objective evidence, however, it is immediately apparent that there are no available prospective observational studies to assist us. In fact, the current literature is limited to case series describing primarily orthopedic injuries,[2–4] as well as 2 retrospective reviews of 5- and 7-year experiences in regions where MMA is popular.[5,6] While it would be both naïve and inaccurate to suggest that MMA fighters are not exposed to a susbtantial risk of physical and mental injury, the best data we have indicate that these athletes receive "concussions" in about 3% of their matches. Equally as important, however, about one-quarter of matches are stopped because of impact to the head.[7] There are no long-term follow-up data to draw upon. Given the discrepancy in these percentages, one could postulate that MMA referees are well trained to recognize unacceptable punishment to an opponent's head and have been able to stop most matches at a reasonable point in time. This is not overly surprising given the close working relationship between the ringside physician, commission inspectors and referees during an event. Furthermore, although the pre-fight medical examinations, as well as the licensing requirements (annual physical, eye exam, blood work, hepatitis screens, brain magnetic resonance imaging/angiography) are rigorous, it is really the MMA bout itself that is the most important cause for concern. These athletes are examined multiple times immediately after a match and are suspended for prolonged periods of time if any concussion or traumatic brain injury is detected.

It is also unfair to evaluate this activity in isolation. More specifically, numerous other sports are associated with a substantial risk of severe injury. Horseback riding is an activity of particular interest in Alberta, given that 50% of all horses in Canada are located within the province. Equestrian pursuits are considered a central tenet of many Albertans' lives. Horseback riding is also a publicly accepted and government-supported recreation. Unfortunately, it is also responsible for a hospital admission rate of 0.49/1000 hours of riding.[8] Other high-risk, yet generally accepted, activities include rugby, football, hockey, skiing/snowboarding and automobile racing.[9] Each appears to have an injury risk profile

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that approximates or is higher than that of MMA. Horseback riding, rugby, hockey and football also possess a substantial risk of neurologic injury. Furthermore, when the actual number of participants within each activity is accounted for, the total number of injured patients, and therefore the impact on health systems and the economics of society, dwarf the small number of injuries among few MMA combatants. Any one of these other activities, when viewed through a public health prism, could easily be classified as a health emergency.

The truth of the matter is that observing an MMA participant win a match by repeatedly striking the head of an opponent is viscerally uncomfortable for almost everyone, including MMA fans. As physicians, however, we need to be evidence-based, not emotion-based. We suspect that if MMA were as visually pleasing as horseback riding, or as internationally accepted as rugby, or as financially substantial as professional football, there would be more acceptance of the sport.

As trauma surgeons, we treat the worst injuries in society on a daily basis. We also see patients with brain injuries in follow-up clinics for years thereafter. The potential impact of a severe traumatic brain injury is immense, both on individuals and their families. Instead of making emotional consensus statements/resolutions based primarily on anecdotal support, however, we would have had more credibility with the exploding MMA fan base if we instead properly study the issue first. As trauma surgeons and physicians, this is not only our job, but also our duty.

As a result, we have begun a national study to evaluate the true epidemiology of this issue. We look forward to reporting our results to the medical and trauma community in the upcoming year.

Chad G. Ball, MD, MSc
Elijah Dixon, MD, MSc
Department of Surgery
University of Calgary
Foothills Medical Centre
Calgary, Alta.

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