Do urban city trauma centers suffice as pre-deployment training centers for war bound trauma Surgeons? Comparison of trauma caseloads faced by the urban city surgeon resembling war zone injuries and lessons learnt by war zones surgeons

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ABSTRACT

Introduction

Due to increase in crime and violence, modernization, Industrialization of communities, Motor-Traffic accidents (MTA) and availability of weapons among inner cities communities, the inner city Surgeon is increasingly facing a spectrum of trauma resembling those faced by his counterpart in war settings

Methods

We set to explore the volume and spectrum of cases faced by the urban city trauma surgeon in comparison to his colleague in the war zone to better understand the skillset required on these two settings and how the exposure of the urban cases prepares its surgeon to face war zone trauma cases through review of published data.

Results

Urban city trauma centers caseloads differ from one locality to another depending on its geo-political-economic and crimes profiles. Countries free of violence and high crimes rates, their trauma centers and surgeons have limited exposure and expertise in management of trauma cases.

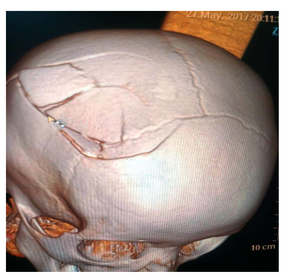
Conclusion

Trainee combat surgeons can be deployed in combat hospitals for elective placements to train in management of wider spectrum and higher loads of trauma cases. More focused pre-deployment training courses/residency programs such as the DUO plus concept of the German Medical Forces were trainees attain a second specialization alongside general surgery and the French Advance Course for Deployment Surgery-CACHIRMEX.

Ramasamy et al analysed the trauma cases faced by the British military surgical mission (Operation HERRICK) in Camp Bastion, in Helmand Province, Afghanistan in a two year period (1st May 2006 and 1st May 2008) were a total of 1668 cases required 2210 procedures to be performed of which Paediatric casualties accounted for 14.7% of all cases. The spectrum of injury was 66% (1463) orthopaedic cases, 21% (465) general surgery cases, 6% (139) head and neck injury cases and 5% (104) burns surgery. 4% (50) of the cases were not combat related. The volume of cases faced by the combat surgeon in the military trauma center for penetrating abdominal injuries was similar to a 3 year trauma surgical rotation in the United Kingdom. The skillset required by the war zone trauma surgeon supersedes his colleague back in the UK

Pictorial Cases presentation

5 pictorial cases have been presented to show the spectrum of trauma cases faced by the urban city surgeon resembling the pattern in war injuries. The pictorial presentation is of cases admitted and managed at a referral urban trauma center.



Uchino et al in South Africa at Pietermaritzburg Metropolitan Trauma Service (PMTS) compared the volume of trauma cases in their center to those available from up-to-date literature detailing experience from military encounters in Afghanistan. In their four years study period a total of 11,548 patients were admitted to their trauma center. The spectrum of injuries included 4974 cases of penetrating trauma, of which 3820 (77%) were stab wounds (SWs) and 1006 (20%) gunshot wounds (GSWs). There were a total of 6574 cases of blunt trauma of which those from assaults were 2956, road traffic accidents 2674, falls 664, hangings 67, animal injuries 42, sports injury 29 and other injuries 142. In total 4207 operations were performed in the study period which was equivalent to those reported from war zones. It was concluded the center has sufficient workload and wide spectrum of injuries to train the combat surgeon in a 6 month rotation

In a comparative study in Japan at Kurashiki Central Hospital (KCH) Uchino et al reviewed military reports from Dutch, French and British military surgical missions to a trauma center in South Africa and Japan. In the 12 month study period (September 2015 and August 2016) 309 patients were admitted in the Japanese trauma center compared to 2887 in South Africa of which 1244 cases (43%) were of penetrating trauma and 1644 cases (57%) of blunt trauma. The time frame to train a combat trauma surgeon in Japan would be much longer than his colleague in South Africa due to the low volume and limited spectrum of trauma cases

Conclusion

Urban city trauma centers caseloads differ from one locality to another depending on its geo-political-economic and crimes profiles. Countries free of violence and high crimes rates, their trauma centers and surgeons have limited exposure and expertise in management of trauma cases. In training of combat surgeons academic exchange programs can be established between high trauma caseloads centers such as the Pietermaritzburg Metropolitan Trauma Service (PMTS) in South Africa and other centers with low trauma loads