

Travmatik Savaş Yaralanması Olan Kritik Hastaların Yönetimi

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Giriş

İnsanoğlunun yaratılışından beri var olan ve günümüzde de halen dünyanın pek çok coğrafyasında devam eden savaşlar pek çok sayıda asker veya sivilin travmaya bağlı ciddi şekilde yaralanmasına ve bunların da pek çoğunun ölümüne veya kalıcı uzuv kaybına yol açabilmektedir. Günümüzde kullanılan gelişmiş ateşli ve patlayıcı silah teknolojileri daha kısa sürede çok daha fazla asker ve sivil ölümüne yol açmaktadır. Ayrıca yaşam alanlarımız ve doğal yaşam için de büyük bir felaketi beraberinde getirmektedir.

Çatışmaya özgü yaralanmalar olurken günlük travmalar da devam eder ve günlük travma pratiğinde görülenlerden farklıdır. Multi-disipliner takımların bir bölümünü oluşturan cerrahlar silahlı çatışma ortamlarında bütün cerrahi yükü taşımak zorunda kalabilirler. Normal şartlarda eğitimini almadıkları ve

daha önce uygulamadıkları işleri üstlenmek çok kolay değildir.

Çatışma bölgelerindeki mermilerin neden olduğu delici yaralanmalar, patlayıcı kökenli yaralanmalar, çöken binalardan kaynaklanan yaralanmalar ve kapsamlı yanık travmaları çoğu zaman acil tıbbi müdahale ve mobil bakım sağlamak için hızlı bir yanıt gerektirir. Hastaların hayatta kalması genellikle yaralanma noktasından cerrahi kapasiteye sahip bir sağlık kuruluşuna kadar geçen sürenin uzunluğuna bağlıdır.

Triyajın amacı, kurtarılabilecek en yüksek sayıda hastanın veya uzvun, mümkün olduğunca en az tıbbi kaynak ve zaman tüketerek kurtarılmasıdır (1). Hastane öncesi bakım; ilk yardım, resüsitasyon, kanama kontrolü, uygun yara bakımı, kırıkların yeterli immobilizasyonu gibi hayat kurtaran önlemlerin zamanında sağlanmasına izin verir (2). İlk yardım, resüsitasyon, yara bakımı, yanık yaralarının

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mesi açısından gerekli önlemlerin alınması ve uygun sedoanaljezinin sağlanması önem arz etmektedir.

Kaynaklar

1. Giannou C, M B. War surgery volüme 1, working with limited resources in armed conflict and other situations of violence. In: International Committee of the red cross, 2010.
2. Reena P Jain, Sarah Meteke, Michelle F Gaffey, et al, Delivering trauma and rehabilitation interventions to women and children in conflict settings: a systematic review, *BMJ Global Health* 2020;5:e001980. doi:10.1136/bmjgh-2019-001980
3. Medecins sans frontieres. International activity report, 2017. Available: <https://www.msf.org/international-activity-report-2017> (Accessed Apr 01 2019).
4. Handicap International. The waiting list. Adressing the immediate and long-term needs of victim of explosive weapons in Syria, 2019.
5. Sphere Association. The sphere Handbook: humanitarian charter and minimum standards in humanitarian response, 2018. Available: www.spherestandards.org/handbook2018(Accessed Apr 01 2019).
6. Imperial War Museums Staff. Timeline of 20th and 21th century wars. Available from: <https://www.iwm.org.uk/history/timeline-of-20th-and-21st-century-wars>. (accessed at 23 April, 2022)
7. Reinberg S. Worldwide war deaths underestimated. (cited 2019 September 22). Available from: <https://abcnews.go.com/Health/Healthday/storyid=5207645&page=1>. (accessed at 23 April, 2022)
8. İnternational Committee of the Red Cross. Urban services during protracted armed conflict: a call for a better approach to assisting affected people, 2015.
9. Odling-Smee GW. Ibo civilian casualties in the Nigerian civil war. *BMJ* 1970; 2: 592 – 596.
10. Dathan J, Kearney J. The burden of harm: monitoring explosive violence in 2017. *Action on Armed Violence*, 2017. Available: <https://aoav.org.uk/> (Accessed 11 Apr 2022).
11. Bright T, Wallace S, Kuper H. A systematic review of access to rehabilitation for people with disabilities in low- and middle-income countries. *Int J Environ Res Public Health* 2018;15:34.
12. Gosselin RA, Spiegel DA, Coughlin R, et al. Injuries: the neglected burden in developing countries. *Bull World Health Organ* 2009;87:246–246a.
13. From Perrin P. *War and Public Health: A Handbook*. Geneva: ICRC; 1996.
14. Blanchet K, Sistenich V, Ramesh A, et al. An evidenc review of research on health interventions in humanitarian crises. In: London school of hygiene and tropical medicine, 2015.
15. Smith J, Roberts B, Knight A, et al. A systematic literature review of the quality of evidence for injury and rehabilitation interventions in humanitarian crises. *Int J Public Health* 2015;60:865–72.
16. Joshua McIntyre, Syrian Civil War: a systematic review of trauma casualty epidemiology, McIntyre J. *BMJ Mil Health* 2020;166:261–265. doi:10.1136/jramc-2019-001304
17. Belmont PJ, McCriskin BJ, Sieg RN, et al. Combat wounds in Iraq and Afghanistan from 2005 to 2009. *J Trauma Acute Care Surg* 2012;73:3–12
18. Hannah Wild, Barclay T. Stewart, Christopher LeBoa, *Epidemiology of Injuries Sustained by Civilians and Local Combatants in Contemporary Armed Conflict*, *World J Surg* (2020) 44:1863–1873
19. CAPT David S. Plurad, MC USN, Blast Injury, *Military Medicine*, 176, 3:276, 2011
20. Baker SP, O’Neill B, et al. The injury severity score: a method for describing patients with multiple injuries and evaluating emergency care. *J Trauma*. 1974;14:187--196.
21. Abbreviated Injury Scale (AIS) - Overview (Internet). Association for the Advancement of Automotive Medicine. 2019 (cited 7 August 2019). Available from: <https://www.aaam.org/abbreviated-injury-scale-ais/>
22. Bolorunduro OB, Villegas C, et al. Validating the Injury Severity Score (ISS) in different populations: ISS predicts mortality better among Hispanics and females. *J Surg Res*. 2011 Mar; 166((1):):40--44.
23. Stevenson M, Segui-Gomez M, et al. An overview of the injury severity score and the new injury severity score. *Inj Prev*. 2001;7:10–13
24. James Vassallo, Gordon Fuller, Jason E Smith, Relationship between the Injury Severity Score and the need for life-saving interventions in trauma patients in the UK, Vassallo J, et al. *Emerg Med J* 2020;0:1–6. doi:10.1136/emered-2019-209092
25. Husum H,, Strada G. Injury Severity Score versus New Injury Severity Score for penetrating injuries. *Prehospital Disaster Med*. 2002;17:27--32.
26. Eastridge BJ et al. Death on battlefield (2001-2011): implications for the future of combat casualty care. *Trauma Acute care surg*.2012;73(6 Suppl5): S431-7
27. Center of Excellence for Trauma, Tactical Combat Casualty Care (TCCC) Guidelines for Medical Personnel, 15 December 2021, <https://jts.amedd.army.mil/>
28. Gavin D. Perkins, Jan-Thorsen Graesner, Federico Semeraro, et. all. European Resuscitation Council Guidelines, 2021, <https://doi.org/10.1016/j.resuscitation.2021.02.003>
29. Carsten Lott, Anatolij Truhlar, Annette Alfonzo, at.all. European Resuscitation Council Guidelines 2021: Cardiac arrest in special circumstances, <https://doi.org/10.1016/j.resuscitation.2021.02.011>
30. Rt Gerhard, et al. Remote damage control resuscitation and the Solstrand Conference: defining the need, the language, and a way forward. *Transfusion*. 2013;53(Suppl 1):9S–16S
31. Parli R. Ravi and Bipin Puri, Fluid resuscitation in haemorrhagic shock in combat casualties, *Ravi and Puri Disaster and Mil Med* (2017) 3:2

32. Bellamy RF, 1995 combat trauma overview. pp 1- 42 in text book of military medicine eds Washington DC: TMM publicatio
33. Ricardo J. Ramirez, Philip C. Spinella, Grant V. Bocchicchio, Tranexamic Acid Update in Trauma, 2016, <https://www.elsevier.com/open-access/userlicense/1.0/>
34. Webster CE, Clasper J, Stinner DJ, Eliahoo J, Masouros SD. Characterization of lower extremity blast injury. *Mil Med.* 2018;183(9–10):e448–e453.
35. Bailey JR, Stinner DJ, Blackburne LH, Hsu JR, Mazurek MT. Combat-related pelvic fractures in nonsurvivors. *J Trauma.* 2011;71(Suppl 1):S58–S61.
36. Iain A. Rankin, Claire E. Webster, Iain Gibb, et al. Pelvic injury patterns in blast: Morbidity and mortality, *Trauma Acute Care Surg* 2020, Volume 88, Number 6
37. Ahtarap S, Campbell-Sills L, Thomas ML, Kessler RC, Ursano RJ, Stein MB. Postconcussive, posttraumatic stress and depressive symptoms in recently deployed U.S. Army soldiers with traumatic brain injury. *Psychol Assess.* 2019;31(11):1340-1356.
38. C. Giannou, M. Baldan, A. Molde, War Surgery volume 2, working with limited resources in armed conflict and other situations of violence, ICRC, March 2013
39. Pruitt B.A. Combat casualty care and surgical progress. *Ann. Surg.*, 243: 715-29, 2006.
40. Michaeli D. Medicine on the battlefield: A review. *J. Royal Society Med.*, 72: 370-3, 19
41. Kauvar D.S., Cancio L.C., Wolf S.E., Wade C.E., Holcomb J.B.: Comparison of combat and non-combat burns from ongoing U.S. military operations. *J. Surg. Res.*, 132: 195-200, 2006.
42. Cancio L.C., Horvath E.E., Barillo D.J., Kopchinski B.J. et al.: Burn support for Operation Iraqi Freedom and related operations, 2003 to 2004. *J. Burn Care Rehabil.*, 26: 151-61, 2005.
43. Blood C.G., Puyana J.C., Pitlyk P.J. et al.: An assessment of the potential for reducing future combat deaths through medical technologies and training. *J. Trauma*, 53: 1160-5, 2002.
44. Z. T. Sahli, A. R. Bizri, G. S. Abu-Sittah, Microbiology and risk factors associated with war-related wound infections in the Middle East, *Epidemiol. Infect.* (2016), 144, 2848–2857.
45. Murray CK, et al. An approach to prevention of infectious diseases during military deployments. *Clinical Infectious Diseases* 2007; 44: 424–430.
46. Murray CK. Infectious disease complications of combat-related injuries. *Critical Care Medicine* 2008; 36: S358–S364
47. Hospenthal DR, et al. Guidelines for the prevention of infections associated with combat-related injuries: 2011 update: endorsed by the Infectious Diseases Society of America and the Surgical Infection Society. *Journal of Trauma and Acute Care Surgery* 2011; 71: S210–S234.
48. Hawley JS, et al. Susceptibility of *Acinetobacter* strains isolated from deployed US military personnel, *Antimicrobial Agents and Chemotherapy* 2007; 51: 376–378
49. Hatice Kaya Ozdogan, Faruk Karateke, Mehmet Ozdogan, The Syrian civil war: The experience of the Surgical Intensive Care Units, *Pak J Med Sci.* 2016;32(3):529-533
50. Avva U, Lata JM, Kiel J. Airway Management. (Updated 2022 Jan 5). In: StatPearls (Internet). Treasure Island (FL): StatPearls Publishing; 2022 Jan-.
51. Rossaint R, Bouillon B, Cerny V, et al. The European guideline on management of major bleeding and coagulopathy following trauma: fourth edition. *Crit Care.* 2016;20:100.