

Making advanced trauma life support more effective

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Trauma is the leading cause of morbidity and mortality both in developed and developing countries. Advanced trauma life support (ATLS) is a training program for medical providers in the management of acute trauma cases. The aim of this editorial is to highlight the importance of ATLS and to discuss ways to improve it.

The management of patients presenting with acute life threatening traumatic injuries is often difficult and causes anxiety, even for the most experienced of clinicians. A multidisciplinary team approach is required for such seriously injured trauma patients. It is well established that improving the standards of care process would reduce mortality and morbidity in trauma systems.

Advanced trauma life support course was established followed a tragic accident in 1976. In that year, an airplane piloted by a US orthopedic surgeon, J Styner crashed in Nebraska. His wife was killed and 4 children seriously injured. They were taken to a local hospital for treatment. He was shocked by the poor care he and his family received. Subsequently, Dr Styner realized that the care his family was receiving in the local hospital was inferior to what he was giving to his family for 10 hours at the scene of accident. An inquiry was then set up which revealed the need to train clinicians in the trauma care. To address this problem and to provide clinicians with an easily reproducible, standardized and effective approach for the management of these cases, the American College of Surgeons (ACS) developed the advanced trauma life support (ATLS) course. The first ATLS Course was held in 1976 in Nebraska, USA. Since that incident, the ATLS has rapidly flourished and has been introduced worldwide.¹

Advanced trauma life support is currently considered to be the gold standard for the practice of acute trauma management. The effectiveness of the ATLS in improving patient outcome has been shown in numerous studies. Introduction of ATLS program has significantly improved trauma patient outcome. Integral to the success of this course lies in the systematic approach to the trauma patient. The aim is rapid and accurate assessment of the patient's physiological status and further management based on these parameters. A standardized and organized approach to trauma patients helps to prevent secondary injury and improve outcome.² It has been suggested that a trauma management system based on ATLS training and the development of the trauma team concept has apparent benefit for patient survival. Clinicians with previous ATLS training or exposure to ATLS principles are more ordered in their approach to patient management during trauma. The aim is to provide a system of care that is safe, effective and able to be practiced in all trauma receiving hospitals.

Today the ATLS is being practiced in more than 60 countries with more than a million physicians trained over the last 3 decades.¹ It has changed the way trauma care is practiced in the west. However, this is just one end of the spectrum. The majority of trauma still occurs in developing countries. Approximately 90% of global injury related deaths occur in low and middle income countries and it is predicted that the incidence of trauma will likely increase by the year 2030.³ Trauma care is still disorganized in such countries. The fact that the course is controlled totally by the American college of surgeons prevents other countries from modifying it in the way they would like.

The ATLS course generates significant revenue for American college of surgeons. These courses are not

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Received 4th September 2013. Accepted 11th November 2013.

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cheap to set up, run or attend. The cost factor limits the further spread in to other countries. The cost can be significantly reduced if the course is controlled locally at each country. Like the Indian generic drug industry which provides lower cost drugs, it is now time to develop generic trauma courses. This is being practiced at least in some developing countries. The National Trauma Management Course (NTMC) in India and the Primary Trauma Care (PTC) course offered a 2-day courses on initial trauma management. The Essential Surgical Skills (ESS) course in East Africa offered a course covering breadth of surgical problems, including trauma.^{4,5} As with ATLS, they offering courses about improving trauma skills through the format of a brief, CME course. These locally developed “generic” trauma courses improves the participant’s knowledge and self reported process of trauma care. Another option is to develop a complete new course with Asian group of instructors, developers, and regulators. Such option has the advantage of relevance and cost control. However, this seems unrealistic given that majority of trauma research is still being conducted in US and Europe and given the efficacy of ATLS. Increase in variation with other countries and maintenance are need to be considered.

Globally, cultures and healthcare systems vary considerable and it is unrealistic to expect that a single course will suit everyone. There should be involvement of international faculty and the course should be tailored according to local needs. This will also generate enthusiasm both among the learners and instructors due to local relevance. Frequent trauma course should be arranged to provide a large number of medical staff (of all hierarchy) with an overview of the ATLS approach to trauma. One is better able to cope with a trauma case after doing ATLS course. Advanced trauma life support would seem to be the ideal training course for doctors who may have to deal with a trauma case on an infrequent basis during a major incident. The ATLS manual states that the ATLS course is primarily targeted at people who do not deal with major trauma on a

day to day basis, who must evaluate and manage the seriously injured patient during the period immediately after the injury.

Advanced trauma life support training utilizes lot of resources, which may not be readily available at each institute. Moreover, it take time to train large number of hospital staff. In such cases, abbreviated ATLS training is a useful option, until the training is complete. It should be made an integral part of undergraduate and postgraduate training

In conclusion, the importance of ATLS in the management of patients with acute trauma cannot be denied. However, it is still not widely available in countries where it is most needed. Advanced trauma life support training should be offered to all health care providers directly involved in management of trauma patients. The course should be tailored according to local needs to make it truly international. This would certainly lead to improved trauma care and will decrease patient mortality and morbidity.

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