Training in Trauma Care

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The Need

In a dubious distinction for the country, the World Health Organization has revealed in its first ever Global Status Report on Road Safety that more people die in road accidents in India than anywhere else in the world, including the more populous China. (Dipak Kumar Dash, TNN, Aug 17, 2009, 04.10 am IST. New Delhi) About 250 people die in road accidents in India everyday ('Strategy on road safety must' TOI on 7th March, 2009) and the total number of deaths every year due to road accidents has now passed the 135,000 mark, according to the latest report of National Crime Records Bureau or NCRB. Besides road traffic accidents we have our share of victims of terrorist activities, accidents at work places, natural and man-made disasters, etc. Out of these about 78% are men in age group of 20–44 years, causing significant impact on productivity. (Joshiyura MK, Shah HS, Patel PR, Divatia PA. Trauma care systems in India—An overview. Indian J Crit Care Med 2004;8:93-7)

No credible data is available to ascertain the outcome of trauma victims; it is generally perceived that outcomes in patients with single system injury (e.g. musculoskeletal trauma) have improved. Unfortunately, the same cannot be said for polytrauma. There is a high mortality rate amongst those with multisystem injuries, which can be attributed to the primitive state of trauma-care systems, lack of prehospital care and inadequate critical care. It is established that the mortality in serious (ISS > 16) injuries is six times worse in a developing country such as India compared to a developed country.

(Mock CN, Jurkovich GJ, nii-Amon-Kotei D, Arreola-Risa C, Maier RV. Trauma mortality patterns in three nations at different economic levels: Implications for global trauma system development. J Trauma 1998;44:804-14.)

For any improvement in this area, it is essential to establish trauma system in the country and have health care professionals trained to provide efficient care to trauma victims at every step—pre-hospital, in-hospital and rehabilitation. Establishment of trauma system would fall within the purview of central and state government authorities. But professional bodies such as The Association of Surgeons of India can play pivotal role in training of health care professionals. Unfortunately such efforts have remained restricted to a few pockets in our country.

The Training

Optimal trauma care demands protocol based disciplined team approach. Hence the training needs to be imparted to all involved in the management of trauma victims.

Ancillary Service Personnel—Paramedics, Nurses, Therapists, Helpers, Technicians

The paramedics involved in pre-hospital setting should be trained in performing primary survey and initial resuscitation. They should be capable of on-site triage and safe transport to appropriate trauma centre. At present personnel manning the ambulances are not required to have any specific qualification or training even in the metropolis. This situation places the trauma victim in great jeopardy. Efforts towards establishment of emergency medical services with facility for pre-hospital care have been initiated in few cities in some states. Some of these are with government (e.g.

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Ahmadabad) initiative and others private (e.g. Pune). Training programs for paramedics are being conducted mainly by private agencies and are either branded BLS/ATLS courses or their modifications. But the total number of trained paramedics is abysmally low for our needs.

Nurses are important members of trauma team and efficient intensive care is a deciding factor for critically injured. But the course content of nurses' training program lays little stress on intensive care. Specialised trauma intensive care courses are not available except at few centres and that too very occasionally.

Other trauma team members such as physical therapists, technicians, helpers; should be sensitized towards the special needs of trauma victims. This can be achieved by suitable modification of course content, pre-employment training and in-service updates.

Medical Graduates

Fresh medical graduates are placed at primary health centres during the mandatory rotating internship program. They are often the first health care providers for a trauma victim. But unfortunately, their training during the medical course does not prepare them adequately to face such exigencies. Suboptimal conditions at PHCs compound the problems. At LTM medical college, Mumbai; about 10 years back, we started special training of interns as part of orientation program prior to placement. They received training in basic and advanced life support and performance of life saving procedures such as insertion of intercostal drain and tracheotomy. This initiative improved the confidence of interns significantly and was included as a regular component of interns' orientation program by the Maharashtra University of Health Sciences. But though prescribed by MUHS, this program is implemented in very few medical colleges in Maharashtra.

Surgeons

Though majority of trauma victims suffer from musculoskeletal injuries, the immediately life threatening injuries are intracranial, intrathoracic or intraabdominal. Salvage of such victims demands diagnostic, resuscitative and surgical skills of a general surgeon. Personally I am firmly of the opinion that every trauma patient should be first evaluated by a trained general surgeon. During training of a surgeon, the exposure of the trainee to trauma care and the experience that is accrued depends on the patient load at the training facility and hence is very variable. Placement of every surgical trainee at an identified high volume trauma centre for a minimum period of 3 months would help overcome this shortcoming.

The trauma service at LTM medical college and hospital, Mumbai; is the first such centre in South-East Asia and was

established in 1973. The intensive trauma care unit (affiliated to The department of Surgery) receives about 2700 patients with serious injuries annually besides about 12,000 less seriously injured patients that are managed at other wards in the hospital. Observer ship facility is available at the trauma centre for surgical trainees as well as qualified surgeons. With the aim to update qualified surgeons and train the surgeons in making; the department of Surgery has been conducting basic and advanced trauma care workshops for surgeons annually for last 11 years, in collaboration with the departments of Orthopaedics and Anaesthesiology. This activity is done under the aegis of Indian association of Trauma and Critical Care (A Chapter of The Association of Surgeons of India). The course contents include basic and advanced trauma life support measures, critical care and definitive surgery for trauma victims. An appropriate adjunct to this is a workshop on surgical critical care and mechanical ventilation and is being offered annually for last 6 years.

The surgeons at district level government hospitals are often the first responders for injured patients. We conducted exclusive residential training program for updating these surgeons for Maharashtra Health Systems Development Project of Government of Maharashtra during 2004. The 10 day course was administered to 108 surgeons divided in 10 groups over 1 year period. The feedback was encouraging. But the opportunities to utilise the training have been inconsistent due to lack of facilities at various district hospitals. The training module is ready and with suitable modifications can be utilised to update surgeons in different states of India.

Trauma Surgeons

During last three decades significant advances have taken place in the understanding of altered physiology and treatment of seriously injured patients. Concepts such as hypotensive resuscitation, damage control surgery, abdominal compartment syndrome, non-operative management, advances in intensive care; have all helped improve survival probabilities of hitherto non-salvageable patients. The benefits of these developments would reach the trauma victims only if the attending surgeon has the experience, education and expertise and most importantly the appropriate approach towards trauma management. With ever increasing number of patients and expanding body of knowledge, development of Trauma Surgery as a speciality has become a necessity. But the authorities controlling the medical education in our country have not taken adequate initiative in this direction yet.

National Board of Examinations did take cognizance of this fact and started Post-doctoral fellowship program in trauma care of 2 years duration in 2004. L. TM Medical College, Mumbai was the first institute in the country to be recognised for conduct of this course and I was appointed as

the first course director. Besides Mumbai this program is now available at Bangalore and Coimbatore. Till date seven trauma surgeons have completed the program successfully and are qualified as FNB (Fellow of National Board) in Trauma care. Unfortunately the medical fraternity including administrators at trauma centre are reluctant to recognise trauma care as a speciality. Hence these qualified trauma surgeons are facing difficulties in establishing themselves in practice. Three of these trauma surgeons are practicing exclusively in the field of trauma and 4 others are working as trauma and general surgeon. The acceptance is growing gradually and would bring better quality of care to the trauma victims.

The Medical Council of India is in the process of establishing M Ch program in trauma care and this would certainly provide a boost. The Maharashtra University of Health Sciences has also taken an initiative in introducing post doctoral certificate course in trauma care.

In most of the developed countries with established trauma systems, general surgeons with requisite experience and training in definitive trauma surgery are chosen for providing trauma care. To maintain their position, they need to undergo regular re-certification in advanced trauma life support and surgical intensive care.

Administrators

For efficient trauma care it is not enough to have trained surgeons. It needs sensitized health care administrators to establish trauma system, to understand its special needs and to maintain its quality.

General Population

An important aspect of training in trauma care is to create awareness among general population about trauma prevention, response in mass casualty situation, first aid and methods of safe transport of injured. Several NGOs and National Disaster Management Authority are active in this area.

The Present Scene

At present various bodies are actively involved in imparting training in trauma care to different groups at different levels. These are

1. Indian Association of Traumatology and Critical care (Section of ASI) in co-ordination with department of General Surgery, LTMGH, Mumbai– Basic and Advanced trauma care and definitive surgery for trauma for surgeons and trainees
2. Apex trauma centre, New Delhi—Advanced Trauma Life Support (Branded course)
3. Academy of Traumatology (India—‘National Trauma Management Course’ (NTMC) with accreditation from the International Association for Surgery of Trauma and Surgical Intensive Care (IATSIC).
4. Voluntary organisations—Paramedics training for pre-hospital care

Though various groups are enthusiastic, there is lack of co-ordination amongst these agencies. This has resulted in discordant, sporadic training restricted to specific pockets in the country. For more tangible outcome, energies should be pooled and efforts made to formulate a common agenda.

Thought for Future

We have to structure program for each category (paramedics, nurses, surgeons, ancillary services) with standardized course content suitable for our situations with flexibility and scope for modification depending on the specific location. A national level apex body could grant affiliation to appropriate agencies and provide accreditation of the courses. The training modules would be utilized by these recognised, designated agencies in different parts of our country. The courses could be supervised by representatives of apex body to ensure quality control.

The Association of Surgeons of India in conjunction with its section—IATCC is the most suitable national organisation to formulate such an apex body. Besides accreditation of various courses, ASI is equipped to conduct trauma care courses in conjunction with every national and state chapter conference as well as for rural surgeons. ASI can also influence statutory body like MCI to make trauma training a mandatory component of training in all relevant surgical specialities besides establishing trauma care as a speciality in itself.

We need training in trauma care to take better care of our injured so that we save lives not only on the roads but also in the hospitals and ensure early return of the trauma victim back to the family and society.