Advanced Trauma Life Support System (ATLS) in a Peripheral Hospital

Dear Editor,

It was Dr James Stynor, an American Orthopaedic Surgeon who introduced a structural trauma management training programme, following the death of his wife and serious injury to his 3 children in an air crash in 1970s. This approach is now regarded as gold standard in early trauma, initial assessment and resuscitation. The basic philosophy of the ATLS is to treat lethal injury first, then reassess and treat again. Component steps of ATLS are:-

- Primary Survey - identify what is killing the patient
- Resuscitation - treat what is killing the patient
- Secondary survey - proceed to identify all other injuries
- Definitive care - develop a definitive management plan

Elements of primary survey are:

Airway with cervical spine control

Breathing and ventilation

Circulation with control of haemorrhage

Dysfunction of the central nervous system

Exposure in a controlled environment

Secondary survey :

Head to toe examination of the undressed stable patient

The ATLS approach focuses on the second or early death group where death is preventable [1]. At least one in five and possibly as many as one in three, trauma deaths in hospital are preventable [2]. We have adopted ATLS with modification as required for our hospital setting (Table 1). Pre-hospital trauma life support (PHTLS) is essential component of ATLS in which Regimental Medical Officers (RMOs), Nursing Assistants (NAs) and Battlefield Nursing Assistants (BFNAs) are trained in Combat Survival Skills. We have done away with the system of receiving the casualties in MI Room and shifting them to the ward. We receive our casualties directly in the acute ward, where Nursing officer/NA on duty does the primary survey and sends information quickly to Duty Medical Officer (DMO) and surgical team. In primary survey they carry out ABCD of the ATLS. Doctors do the re-primary survey and secondary survey. In documentation, investigations and required X-rays are carried out in the acute ward itself. Focused abdominal sonogram for trauma (FAST) is done in the ward with portable ultrasound by the surgeon [3]. Triage of mass casualties is carried out by the surgeon. In this small peripheral 49 bedded hospital with limited staff and equipment we have managed 372 battle casualties successfully with no mortality in 2 years.

Our experience with ATLS is wonderful. It is recommended that all large hospitals should have a trauma wing to handle polytrauma cases and follow ATLS to prevent early deaths. It is also recommended that the concept of PHTLS be taught to all officers of other Arms and Services during their training to enable them to ensure better Combat Survival Skills of their troops.

References

1. Trunkey D. Trauma, Scientific American. 1983;249:28-35.
2. Royal College of Surgeons of England 1988 report, of the working party

Table - I

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I. ON RECEIPT OF INFO

1. Info - CO, DMO, Surg Team, Sr JCO, OT, Lab, X-ray
2. Keep ready
 - Trauma bed
 - Trauma tray

II. ON RECEIPT OF CASUALTY

1. Primary Survey
 - A-Airway
 - ?-Noisy respiration
 - Primary intervention (First Aid) by NA/Nursing Officer
 - Suction throat
 - Guidel's Airway
 - Needle cricothyroidotomy
 - B- Breathing
 - Resp rate, Cyanosis
 - 02 by facemask
 - IPPV with Ambu bag
 - C- Circulation
 - Pulse Volume, Rate
 - Stop bleeding by compression
 - BP
 - Start IV with 16-18g IV Cannula
 - Ringer's Lactate - Run
 - ?- Heavy bleeding
 - Protect spine
 - D- Disability
 - Level of consciousness
 - Remove/Cut all clothes
 - Cover patient with sheet/blanket
 - E- Exposure
 - Remove/Cut all clothes
 - Cover patient with sheet/blanket
2. Secondary Survey
 - By Doctor
 - Secondary intervention
 - Analgesia - Inj Fortwin
 - 15 mg IV stat
 - then increments of 3 mg IV
 - Antibiotics - Inj Ampicillin
 - 500 mg IV
 - Inj Gentamicin 80mg IV
 - Inj Cloxacillin 500mg IV
 - if bony involvement
 - Drug - Inj Ranitidine 1 amp IV
 - Inj TT 0.5 ml IM
 - Dressing of wounds
 - Investigations
 - Hb, Blood group
 - X-ray of injured parts
 - Chest X-ray (for blast injury)

on the management of patient with major injuries. Royal College of Surgeons, London.

3. Short Practice of Surgery : Bailey & Love's 23rd ed page 278.

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For Whom Do We Toil?

Dear Editor,

This is with reference to the article titled "For Whom Do We Toil" which appeared in MJAFI 2001;57:52-4.

Utilisation of a hospital is studied by a complex of hospital bed and population utilisation indices. Average length of stay alone is an unreliable indicator, as the figure will vary as per the role of the hospital and the type of patients being treated. Moreover, low

mortality figure, as mentioned in the study, simply represents an outcome measure of the hospital. To be meaningful, these data should have been case-mix adjusted. Efficiency in health care is an elusive concept due to intangibility of most of the outcomes of a health care organisation. I think the author meant effectiveness and efficiency, while discussing the delivery profile of the hospital. I wish the author could have carried out a more comprehensive study

of the utilisation indices and the outcome profile of the hospital and then benchmark these data with that of similar sized service and civil hospitals, before commenting on the efficiency of patient care being delivered. I congratulate the author for bringing out the tremendous wastage of scarce resources due to admissions for medical board,

which needs to be addressed by our service HQ.

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Reply

Dear Editor,

1. We are thankful to the readers of MJAFI for their comments on the article "For whom do we toil".

2. Various complex indices, incorporating a number of variables, are available for studying the utilization of hospital services. The types of variables one wishes to analyze determine selection of an index for a particular study. Average length of stay is an index extensively used in the service hospitals. The utility of this index is in its simplicity. This index can be applied where one wishes to neutralize the effects of various unconnected variables. Since our study was based on the data of a general hospital, providing primary and secondary health care to a wide range of patients, this simple index was chosen.

3. Adjusting the outcome as per the types of cases is an index better used at speciality centres to compare various treatment modalities. We agree with the comment, that low mortality figures in our study represent the outcome measure. Our study was aimed at analysing the outcome of patients in a general hospital and not at a

speciality centre.

4. The scope of our study was limited to one service hospital only. The suggestion of comparing the utilization and outcome indices of various service and civil hospitals is very good. We will keep it in mind in formulating further studies.

5. Our observations are based on the data of our hospital. Increase in the number of ex-servicemen and their families is undisputed. These are our clients and we are sure that for medical facilities, whenever required, they look towards service hospitals. We do not have access to the national level data on the total number of ex-servicemen and their dependants' utilization of hospital services. The reader too has not provided any statistics. Therefore it is not possible to reply to the comment.

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