

## AUDITS

## HEAD INJURED ARMED FORCES CASUALTIES – CAN WE IMPROVE OUTCOME?

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General Hospital Anuradhapura (GHA) is the first receiving station for the casualties of the operational areas of Mankulam, Puliyankulam, Oddusudan, Omanthe etc. Most priority 1 coded patients are directly air lifted to GHA, treated or stabilised there and thereafter either treated in GHA or transferred to the Army Hospitals or to the General Hospitals in the rest of the country. The Surgical Intensive care Unit (SICU) at GHA where most of the critically ill patients are treated consists of 5 beds and receives direct admissions from the surgical casualty ward and the operating theatres.

The aim of this audit was to assess the initial and subsequent care of 'head injured' patients and their outcome in order to ascertain whether there is room for improved care.

The following were studied :

1. Whether the 'head injured' patients were admitted following initial standards of head injury management in the battlefield?
2. Whether they received such management following admission to SICU?
3. How many of the casualties had X-rays and CT scans following admission to make a diagnosis?.
4. How many underwent surgery at GHA?
5. How many survived to be transferred?
6. Of those transferred- What was the diagnosis made?  
How many underwent surgery?  
What was their final outcome?

## Method

The audit was carried out retrospectively on armed forces casualties admitted to GHA from the 3rd of August 1995 to the 31st of August 1997. The names, dates of admission and the serial numbers were obtained from the admission register of the SICU. A data collection form was filled with the information obtained from the SICU notes. The patients who had "head injuries" both penetrating and blunt as diagnosed by the surgeons were separately analysed to determine how many of them had been managed according to the standard protocol of head injury management such as establishment of an airway, breathing and circulation.

The patients notes were checked to see whether they had x-rays and CT scans done and how many underwent neurosurgery at GHA and how many were transferred to the National Hospital of Sri Lanka (NHSL). Of those transferred their outcome was looked into, particularly whether a diagnosis was made, how many underwent surgery, and what the final outcome was. Inability to locate their NHSL notes was a big drawback. In spite of looking in admission registers in the accident service, NSU ICU, NHSL records room and the NSU records room, over a period of 3 months, I was able to find only a few of the notes.

## Results

	Aug.-Dec 95	Jan.-Dec 96	Jan- Aug 97	Total
Casualties	33	49	140	222
Site of injury				
Head	5	5	23	33
Maxillo-facial	2	3	4	9
Chest	2	2	23	27
Abdomen	3	11	18	32
Pelvic	0	0	1	1
Limbs	9	3	7	19
Vascular	2	5	7	14
Spinal	0	0	1	1
Multiple	10	20	56	86

Of the 86 patients with multiple injuries 13 patients had head injuries as well. Out of a total of 222 casualties 46 had a head injury with or without another injury. (20.7% of the total admitted to SICU).

It was noticed from the card sent with them from where they were first treated by a medical officer that it took an average of about 4-5 hrs for a patient to be admitted to SICU from the time of discovering them on the battlefield.

Of the 46 head injured patients, 9 (19.5%) were admitted to SICU intubated and ventilated with 1 of them being ventilated via a tracheostomy. Eight of them would have been intubated either in the admission ward at GHA or in the operating theatre. The likely reason for those patients to