

Rehabilitation of patients with traumatic brain injuries in South Sudan

Eluzai A.Hakim^a FRCP (Edin & Lond)

Introduction

Traumatic brain injury (TBI) is defined as brain injury due to externally inflicted trauma which may result in significant impairment of an individual's physical, cognitive and psychosocial functioning (1). In an analysis of patients admitted with trauma to Juba Teaching Hospital, Dario Kuron Lado (2) showed that of 652 patients presenting with different patterns of injury due to trauma 12% (47) had suffered head injury (see Figure 1). He also pointed out that there were no rehabilitation services for those who survive trauma with serious physical and/or cognitive disabilities. Although a recommendation was made in this study to develop a Multidisciplinary Rehabilitation Team of physiotherapists, occupational therapists and clinical psychologists, there is no evidence that there are plans to develop a rehabilitation service for patients with head injuries.

Convincing evidence has emerged that TBI patients with moderate or severe injuries will have their hospital stay reduced by approximately 30% and the re-acquisition of personal independence increased by the provision of a formal specialised inpatient rehabilitation programme (3).

- Severe traumatic brain injury is defined as an injury causing loss of consciousness for more than 6 hours and a Glasgow Coma Scale (GCS) after initial resuscitation of 3 – 8 (4).
- Moderate traumatic brain injury is defined as an injury causing loss of consciousness for more than 15 minutes and a Glasgow Coma Scale after initial resuscitation of 9 – 12/15.
- Mild traumatic brain injury is defined as loss of consciousness of less than 15 minutes and a Glasgow Coma Scale after initial resuscitation of 13-15. Patients with mild head injury rarely lose consciousness and often do well subsequently though an unknown proportion may be plagued with headaches, and episodes of forgetfulness but usually do not need hospital admission or rehabilitation. They may go on to have difficulties at work or school, or in their marriage.



Figure 1. Patient with TBI in Juba Teaching Hospital

(credit Dario Kuron Lado)

There is evidence that appropriate treatment in the inpatient phase for moderate and severely injured patients may improve some aspects of behaviour long term if TBI patients are nursed in a suitable environment as soon as medical and/or surgical stability is achieved. It is vitally important to transfer these patients to a Specialist Rehabilitation Unit as early as possible or nurse them in a quiet dedicated room in order to achieve the following:

- Minimise the development of secondary physical and behavioural complications. These are known to occur early in traumatic brain injury and interfere with later recovery.
- Provide regular observation by staff dedicated to the rehabilitation of such patients.
- Attend to nutritional needs which may be given through special routes such as gastrostomy feeding tubes or nasogastric tubes.
- Provide appropriate positioning to allow satisfactory ventilation, prevent pressure sore development, and minimise aspiration pneumonitis and joint capsule and muscle contractures.

For a Rehabilitation Unit to provide appropriate rehabilitation following TBI, there needs to be a dedicated ward with appropriately trained multidisciplinary staff where the patient can be nursed in a quiet environment, preferably in a single room. Those who are agitated and liable to climb over cot sides should be nursed on a mattress on the floor or on a low bed to avoid further injury.

^a Consultant Physician and Specialist in Rehabilitation Medicine, St Mary's Hospital, Newport, Isle of Wight, PO30 5T, UK
Email: eluzaihakim@doctors.org.uk

RESEARCH

Avoid phenothiazines for sedating agitated patients as these are epileptogenic. Animal experiments have shown that phenothiazines and haloperidol impair neurological recovery and should be avoided (3). Barbiturates should not be used. If the patients are agitated adopt the following strategy:

- a. Look for an underlying cause such as alcohol withdrawal.
- b. A full bladder.
- c. An undiagnosed fracture or other cause of pain.

I recommend carbamazepine 200 – 600mg twice daily, starting with a small dose of 100mg and titrating the dose upwards to contain the agitation.

Prognosis in acquired brain injury

Several individuals with severe brain injury and persistent coma for several weeks have regained consciousness and gone on to lead normal lifestyles. The outcome is highly variable and unpredictable. Therefore never give a prognosis in the first few weeks after an accident as significant physical and psychological recovery can take place for at least two years or longer (5).

Conclusions

This brief article suggests establishing a small dedicated

Rehabilitation Unit for managing the significant number of patients with traumatic brain injuries in the Republic of South Sudan. Trauma to different parts of the body has been recognised as an important health problem in the Republic and traumatic brain injury is common. Patients do recover if offered effective rehabilitation. Family support, as well as other forms of support, is very effective in enhancing the role of hospital rehabilitation. We must never give up rehabilitating patients with traumatic brain injury, however serious the injuries are.

References:

1. NIH Consensus Development Panel on Rehabilitation of Persons with Traumatic Brain Injury. *JAMA* 1999; 282(10): 974 – 982.
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3. Working Party Report of The British Society of Rehabilitation Medicine on Rehabilitation After Acquired Brain Injury 2003.
4. Teasdale G and Jennett B. Assessment of coma and impaired consciousness. A practical scale." *Lancet* 1974 2 (7872): 81-4. http://www.coma.ulg.ac.be/images/gcs_comments.pdf
5. Barnes MP and Ward AB in Textbook of Rehabilitation Medicine 2000. Oxford University Press.

Congratulations to Dario Kuron Lado who has passed both parts of the Membership of the Royal College of Surgeons. After graduating from the University of Juba and training as a surgeon on the Khartoum MD (Surgery) programme, Dario Kuron Lado worked at Juba Teaching Hospital as the main, and mostly, only surgeon for several years. In 2010 the St Mary/Juba Hospital Link arranged a Medical Training Initiative in urology for him at the North Middlesex University Hospital, UK. Dario Kuron Lado is returning to Juba where he will be acting Head of the Clinical Training Unit.

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