Using Softcast to Treat Torus Fractures in a Paediatric Emergency Department

Abstract:
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Abstract
Wrist torus fractures in children are a frequent reason for Emergency Department (ED) visits. Torus fractures traditionally were treated with a backslab cast in the Children's ED and then referred to the Fracture Clinic. Guidelines were developed in order to standardise the care for children who attended the ED with a torus fracture. All patients who were seen & treated by the Advanced Nurse Practitioner (ANP) over a one year period with a diagnosis of a torus fracture were treated with immobilisation in a softcast. 119 patients met the criteria for inclusion. There were no adverse events recorded and no patient required subsequent visits to the Fracture Clinic. There was a cost savings of €18596 as compared with the normal referral pathway to the Fracture Clinic.

Introduction
Wrist torus fractures in children are a frequent reason for Emergency Department (ED) visits. Torus fractures most commonly occur at the distal radius following a fall onto an outstretched hand or a hyperextension wrist injury secondary to a sporting activity. Management for wrist torus fractures, varies greatly among several studies. Torus fractures traditionally were treated with a backslab cast in the ED and then referred to the Fracture Clinic for review & application of a full cast. The objective was to develop a guideline in order to standardise the care and length of immobilisation for children who attended the ED with a torus fracture. Softcast is slightly different in composition to traditional materials that a cast may be made of. It provides the unique combination of flexibility and resilience resulting in the maintenance of muscle tone, improved circulation and patient comfort. Increased circulation has an important role in the complex process of fracture healing and in the maintenance of function. There is an improved psychological and physical effect since the patient is more comfortable and can return to a normal life more quickly. A comfortable cast is a cast which combines pain relief by providing support where needed, with function where possible. One of the main objectives of functional immobilisation in a softcast is the early rehabilitation of the patient as soon as possible.

Methods
Development of Guidelines for the treatment of torus fractures and a Patient information leaflet was discussed with the Orthopaedic Consultants. Over a 1 year period, the ANP followed the guideline in order to manage torus fractures with immobilisation in a softcast without orthopaedic referral. All patients were given both verbal & written instructions to return to ED for follow up if certain issues arose. All of the patients were instructed to avoid contact sports for two weeks following cast removal. A retrospective chart review was carried out for all patients who presented with torus fractures following guideline introduction & implementation. All of the radiographs had been reviewed by a Paediatric Radiologist within 24 hours. The x rays of all cases not referred for orthopaedic opinion were reviewed independently by an ED Consultant to see if the management was appropriate.

Results
The impact of the guideline implementation was assessed. 119 patients met the criteria for inclusion & were treated with a softcast. There were no adverse events recorded and no patient required subsequent visits to the Fracture Clinic. There were no clinically significant complications that arose in any patient. None of the patients had a radiology report suggesting a more serious fracture. The ED Consultants did not identify any cases as requiring follow up.

Discussion
This review highlights that treatment in a softcast appears to be appropriate for a child with a torus fracture with specific written and verbal instructions. We analysed the cost of the treatment of each patient. We used standard costs provided by the hospital finance department. The cost of treatment of 119 patients before introducing softcast was €654.50. The cost of treatment of 119 patients before introducing softcast was €19,290.50. The cost of an Out Patient Fracture Clinic visit is €147 per patient and they also required application of a softcast at €5.50 per person. The calculated saving of these 119 patients to the health service was calculated at €18,596 over a one year period. A simple treatment for this injury has been described, which has considerable economic implications. Money was found to be saved in terms of time & resource management for the health care system. Subsequent follow-up visits for review as well as follow-up for cast removal add to health care cost. It is also time consuming for the patient & family. Torus fractures in the radius may be safely treated in a softcast which is applied in the ED without adverse effects. This guideline has now been implemented in the ED.

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References


Comments:

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