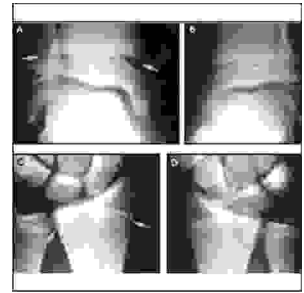


ORIGINAL

PROF-940

RADIAL METAPHYSIS FRACTURES; COMMUNITY BASED TREATMENT FOR UN-DISPLACED GREENSTICK DISTAL FRACTURES



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ABSTRACT... nabeel@esatclear.ie Greenstick / torus fracture of distal radial metaphysis are quite common in children. It has been seen that these fractures are stable and splintage is necessary for comfort and pain relief. **Objectives:** To reduce the number of visits to clinics, which is logistically difficult in a rural community population of a large catchment's area. **Design** Prospectively **Setting:** Accident , Emergency and orthopaedics Departments, General Hospital Letterkenny. **Patients & Materials:** 65 cases with green stick fractures treated with Soft cast, which was easily removable at home. **Results:** All patients in this study showed good results with no complications. The parent satisfaction rate was 97.3%. **Conclusions:** Our findings suggest that it is clinically safe, cost effective and convenient to parents to treat undisplaced green stick fractures within the community.

INTRODUCTION

Fracture of the distal radius in children is very common. Certain type of fractures require careful monitoring, others do not. Torus or buckle fractures are defined as a compression failure of bone and normally occur in the transitional zone between the woven metaphyseal and lamellar diaphyseal bone¹. They are common in the distal radius and are inherently stable fractures. It has been seen that undisplaced unicortical greenstick fracture / torus fracture are stable and require simple immobilization for comfort and protection^{1,2,3}. There is considerable variation in the treatment between different

hospitals. Various methods used to immobilise these fractures include application of plaster of paris cast, fiberglass cast, back slab, soft cast and futura splint.

AIMS & OBJECTIVES

The aim of our study was to demonstrate that after initial visit to hospital, home management of torus fractures is clinically safe and cost effective for both hospital and parents.

PATIENTS & MATERIAL

In this prospective study, we took all children who were

diagnosed as having an un-displaced fracture of distal radius on presentation to Accident and Emergency Department of our hospital. All children were seen in the fracture clinic and we excluded the children who had previous fracture on the same wrist, previous deformity, bicortical fractures and those who did not understand or are not willing to enter in the study. We had 65 cases in our study group. Male to female ratio was 36:29. Mean age was 10.2 years (range 3-15). In 60% of cases more than one person accompanied the injured child. The average distance traveled by the patient on first visit to clinic was 37 miles. Soft cast was applied at first presentation by an experienced plaster technician. Parents were given written and verbal instructions about removal of cast after three weeks at home. Clear explanation of removal of the soft cast on a given date was given before they left the hospital. They were given a questionnaire to be filled two weeks after removal of cast. Parents of the patients were given full access to the fracture clinic during the study period. They were told to return to the clinic if they have any problems or concerns regarding their child's fracture.

RESULTS

Total Patients		65
Accompanying person with the child on first visit to the hospital	One person	21 (32.3%)
	Two persons	35 (53.8%)
	Three persons	9 (13.8%)
Overall satisfaction with treatment		63 (96.9%)
Distance traveled on first visit		37 miles
Followup requested in OPD		4 (6.1%)

All patients in this study showed good results with no complications. Three parents had difficulty in removal of cast. One parent stated that she was nervous while cutting the soft cast; two others stated the material was a bit hard to be cut with scissors. The parent's satisfaction rate was 96.9%. When asked if they would

choose to repeat the same treatment in future, 98% preferred this treatment method. Only 4% asked for a follow-up appointment for their own satisfaction. These were reviewed in fracture clinic and were discharged home.

DISCUSSION

After initial management in the hospital, home management of un-displaced Unicortical distal radius fracture has clear benefits for the patient's family's as well as hospital staff, without shifting the responsibility for the care of the fracture to the general practitioner⁴. It would avoid unnecessary revisit to the clinics by the parents who might have to take off time from work, frustration and waiting time in the clinic and transport difficulties would be avoided and the patient themselves would not be missing school. This method of treatment was also advocated in recent studies in which back slab^{4,5,6}, futura splint⁷ and soft cast⁸ was used. In all these series the patient's satisfaction rate was very good. However there is a slight risk about parental apprehension about the home treatment of their child. In order to overcome this problem in our study a clear explanation and demonstration on how to remove the soft cast was given to the accompanying parent. Information regarding the nature of the fracture and some home exercises regarding wrist mobilization should be available to the parents. In conclusion we would recommend this treatment method, as it is cost effective and acceptable to the parents.

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