MANAGEMENT OF TYPE III SUPRACONDYLAR FRACTURES OF THE HUMERUS IN CHILDREN

THESIS

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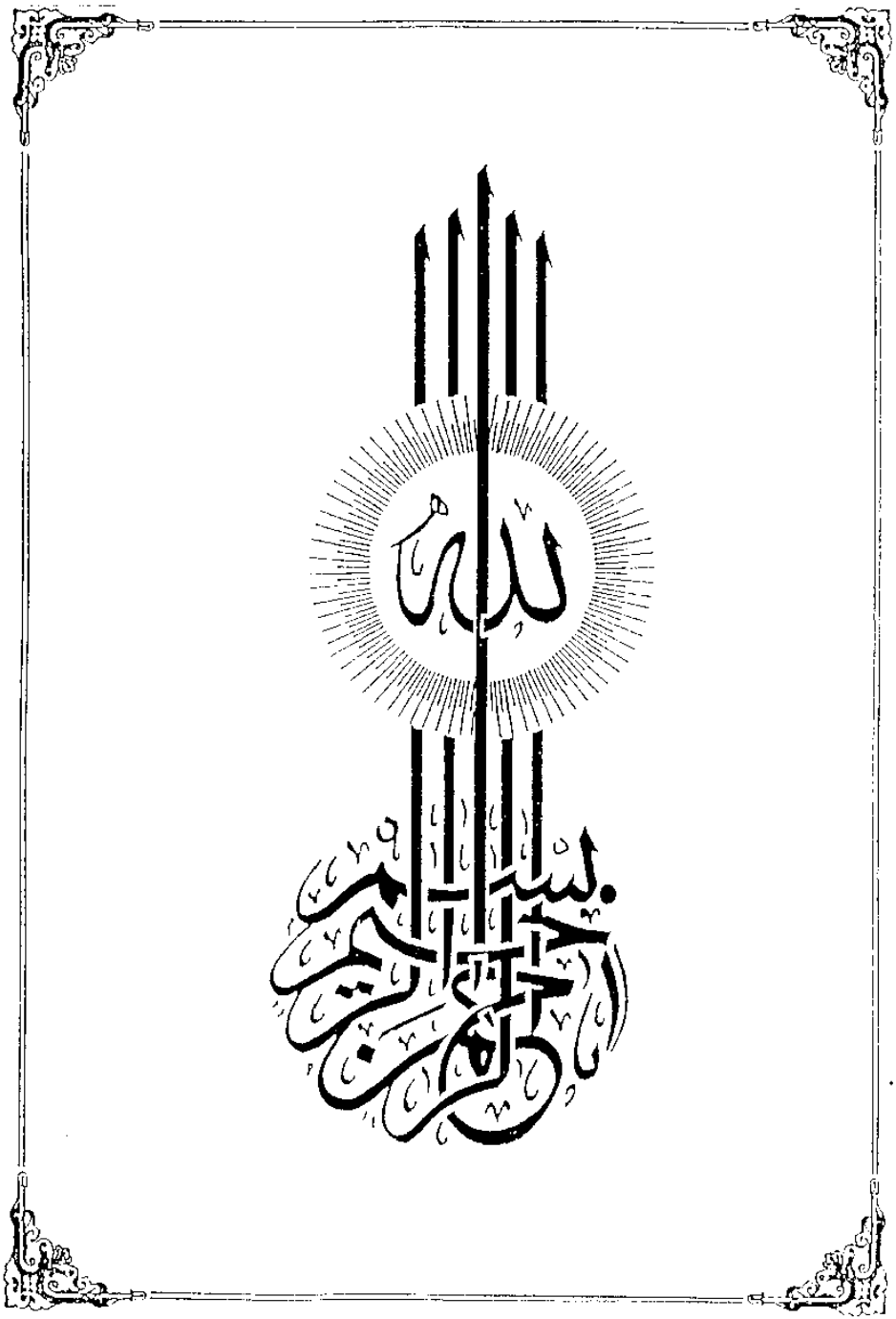

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ABBREVIATIONS

C.A.	Carrying angle.
R.O.M.	Range of movement.
R.C.A.	Radiologic carrying angle.
B.A.	Baumann's angle.
C.L.	Coronoid line.
R.C.L.	Radio-capitular line.
A.H.L.	Anterior humeral line.
P.P.	Closed reduction and percutaneous pinning.
O.R.	Open reduction and internal fixation.
C.R.	Closed reduction and plaster immobilization.
G.A.	General anaesthesia.
I.M.I.	Injury management interval.
C/O	Patients's complaint.

INTRODUCTION

INTRODUCTION

Supracondylar fracture of the humerus is the commonest injury around the elbow in children. The three grades classification for this injury, is the one preferred by most authors. It depends on the degree of fracture displacement and on the presence or absence of bony contact between the fracture fragments. The completely displaced fracture (Grade III) offers a real challenge for the treating surgeon, because of its inherent instability and the difficulties encountered in reducing this fracture and the maintenance of that reduction till it heals. Added to that, the long list of complications whether early as the dreadful compartment syndrome, vascular and nerve injuries, or late sequelae as angular deformities, myositis ossificans, joint stiffness or the rare avascular necrosis of the trochlea.

Reduction of the fracture to the best possible anatomical position, and to maintain that position till the fracture heals, is the key stone of any method used in its treatment. To achieve this, many modalities of treatment have been tried. The oldest of them is closed reduction and immobilization in cuff and collar or plaster of paris. Traction whether skin or skeletal is still used in some centres, and different papers reported good results with its use. Percutaneous pinning after closed reduction is not a very recent modality, yet it started to gain popularity specially in the last two decades. Open reduction and internal fixation had been an undesired method and its use was limited and exceptional for the fear of stiffness and infections. However, light has been recently focussed on it, as a good way to manage grade III fractures. So many papers and reports about those modalities has been issued, either each separately or included in comparative studies. This reflects that the treatment is not yet settled, and still it is debatable.

This work is a trial to approach a way to deal with the difficult grade III fractures. 79 cases were treated and their end results were assessed. The cases were divided into 3 groups according to their definitive treatment. Group "A" for cases treated by closed reduction and percutaneous pinning (25 cases), Group "B" for those treated by open reduction and K-wire fixation (25 cases), and Group "C" for the cases treated by closed reduction and plaster immobilization (29 cases). The method of treatment

was decided individually according to the character of the fracture and the extent of soft tissue insult. Trial at closed reduction & immobilization in P.O.P. used to be done first, followed by percutaneous pinning, if the fracture proved to be unstable. Open reduction used to be done if the previous two methods failed. Our aim was directed toward accomplishing a definitive treatment in one setting under one anaesthetic.

A brief review of some important anatomical and radiological features of the paediatric elbow is presented, in addition to a review of the literatures written about the subject whether the methods of treatment, or the sequelae of this injury. The results of the work were reported and discussed in detail. Finally, a summary was given briefing all the work including the conclusion.

ANATOMY OF THE ELBOW

IN

CHILDREN