Editorial

ELBOW INJURIES IN CHILDHOOD – A SOURCE OF DISQUIET

Deborah M. Eastwood

Children, when they fall, tend to protect themselves with the outstretched hand and therefore injuries to the upper limb are common. The management of fractures of the distal radius may be considered, by some, to be relatively straightforward although the treatment of fractures of the forearm causes debate regarding the value, or otherwise, of intramedullary pinning.¹ Even experienced orthopaedic surgeons, however, may be anxious when confronted by a child with an acutely swollen and injured elbow.

Patients are assessed by means of a history, examination and the use of appropriate investigations to diagnose and hence manage the situation appropriately. In children with injuries to the elbow the history is usually clear, the examination difficult (with tears on the part of the patient and indeed the parent) and the interpretation of investigations unsure. Plain radiography is the investigative mainstay, but the younger the child, the more difficult the interpretation becomes, since much of the cartilaginous anatomy is invisible. The surgeon may have to rely on 'educated guesswork' and 'experience', accepting that the development of the ossification centres varies with gender and race, perhaps more than is usually admitted.² Such judgements are made on viewing standard radiographs, but in the emergency setting, these may be less than adequate and the interpretation of displaced cartilaginous structures open to inaccuracy.³ The debate about the value of comparison views continues,⁴ and although it may be questionable to submit the child to another dose of radiation, easy access to a photograph or radiograph displaying the normal anatomy is often helpful. Arthrography, CT and MRI are all capable of giving much more detail as to the nature of the injury, but, as with so much other 'hi-tech' equipment, we may be subjected to information overload. Interpretation of the data remains the key and if the understanding of plain radiography improves with practice, then the same limitations apply when assessing all investigations, most particularly arthrography. Failure to understand the original injury often leads to errors in management and an outcome

which is poor, demanding subsequent aggressive correction.

In these injuries to the elbow the use and interpretation of various methods of imaging remain problematical as does their management. The pendulum continues to swing from operative methods to conservative measures via the 'minimal surgery' route. Each technique has its supporters and each is acceptable if it succeeds in its aim of obtaining and maintaining an accurate reduction of the fracture or dislocation. The concern with minimally invasive techniques is that they also rely on the interpretation of intra-operative radiographs of shadows, rather than the true visualisation of cartilaginous structures which is possible with an open operative approach. Thus surgeons need to be skilled in the use of and in interpretation of various imaging techniques to help in the assessment of the injury and its safe management.

In the late 19th century, Sir Robert Jones expressed his concerns about injuries to the elbow: "The difficulties experienced by surgeons in making an accurate diagnosis, the facility with which serious blunders can be made in prognosis and treatment and the fear shared by so many of the subsequent limitation of function, serve to render injuries in the neighbourhood of the elbow less attractive than they might otherwise have proved".^{5,6} Now, in the early 21st century, some may feel that little has changed. However, the articles on the subject of elbow injuries in childhood in this issue of the Journal (pp 536-41, 542-3, 544-6, 547-50) suggest that progress is being made. Three of these are case reports but they each have a point to make. The value of MRI in the assessment of a neonatal elbow injury highlights the difficulties in interpreting the images by including line diagrams to help the reader to understand the anatomy. A second report discusses the use of arthrography in assessing the adequacy of reduction of a non-ossified head of the radius. The authors state that there was "clear definition" of the lesion, but some may feel that the images obtained in their own hands in their own units may be more difficult to interpret. The paper from Switzerland on the management of fractures of the neck of the radius had a similar operative technique, but required only an image intensifier. The children in this small series were older and the head better ossified. The final article in this group discusses a "less aggressive"

D. M. Eastwood, FRCS, Consultant Orthopaedic Surgeon
Royal Free Hospital, Pond Street, London NW3 2QG, UK.

©2001 British Editorial Society of Bone and Joint Surgery
0301-620X/01/412307 \$2.00
J Bone Joint Surg [Br] 2001;83-B:469-70.

approach to the problem of a late presentation of a Monteggia lesion. Perhaps one day, a magic wand will arrive, but until then surgeons will continue to need to use common sense in the assessment and management of such injuries while being guided by information, albeit in some cases anecdotal, published in a journal such as this.

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