ABSTRACT

Purpose. To survey caregivers with regard to the pain they perceived their children were having during the removal of the percutaneous Kirschner wires, as well as the need for analgesia.

Methods. 23 male and 18 female patients aged 1 to 15 (mean, 7) years who underwent closed reduction and percutaneous Kirschner wire fixation for elbow fractures and subsequent removal of the wires were included. Before the removal procedure, caregivers of these patients were asked to select one of 4 options for the procedure: no analgesia, paracetamol, sedation, and general anaesthesia. Approximately one month following the procedure, the caregivers were interviewed via telephone to retrospectively score the pain (on a scale of 1 to 10) they perceived their children were having during the removal procedure.

Results. The mean retrospective pain score given by these caregivers was 3.88. Of the 41 caregivers, 30 considered analgesia unnecessary, 10 opted for paracetamol, and only one opted for sedation. None considered general anaesthesia necessary.

Conclusion. For these children with elbow fractures, most caregivers considered analgesia unnecessary during the removal of percutaneous wires.

Key words: analgesia; bone wires; elbow joint; fracture fixation; pain

INTRODUCTION

Elbow fractures are common in children. Non-displaced fractures can be treated by cast immobilisation, whereas displaced fractures necessitate surgical fixation.1,2 In our hospital, displaced supracondylar humeral fractures and physeal separations are treated with closed reduction and percutaneous pin fixation,3 whereas displaced lateral humeral condyle fractures are treated with open reduction and percutaneous pin fixation. The percutaneous pins are usually removed upon radiological bone union. This usually ensues 3 to 4 weeks after fixation in an outpatient setting with no sedation or analgesia. This procedure is considered...
well-tolerated among children.\textsuperscript{4} We surveyed caregivers with regard to the pain they perceived their children were having during the removal of the percutaneous Kirschner wires, as well as the need for analgesia.

MATERIALS AND METHODS

Between July 2006 and January 2007, 23 male and 18 female patients aged 1 to 15 (mean, 7) years who underwent closed reduction and percutaneous Kirschner wire fixation for elbow fractures and subsequent removal of the wires were included. Before the removal procedure, caregivers of these patients were asked to select one of the 4 options for the procedure: no analgesia, paracetamol, sedation, and general anaesthesia. Approximately one month following the procedure, the caregivers were interviewed via telephone to retrospectively score the pain (on a scale of 1 to 10) they perceived their children were having during the removal procedure.

RESULTS

Of the 41 patients, 36 had sustained supracondylar fractures, 3 lateral condyle fractures, and 2 transphyseal distal humerus fractures. The mean retrospective pain score given by these caregivers was 3.88. Of the 41 caregivers, 30 considered analgesia unnecessary, 10 opted for paracetamol, and only one opted for sedation. None considered general anaesthesia to be necessary.

DISCUSSION

The time taken to remove each Kirschner wire is short, and the procedure is not considered to be excessively painful. The mean visual analogue score for pain was reported to be 2.8 out of 10 immediately following removal, and 0.9 after a minute.

In our study, caregivers were asked to retrospectively score the pain they perceived their children were having during the removal of percutaneous Kirschner wires one month after the procedure. This would eliminate bias that these caregivers may have felt at the outset. One limitation of this study was that it did not survey the patients themselves. This would have been a difficult task to undertake given the young ages of the patients. Moreover, the number of the Kirschner wires and their calibre were not taken into account. Removal of a greater number of and larger Kirschner wires may cause greater pain.

REFERENCES