

## Kienböck's disease in a 12-year-old girl

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**A case of avascular necrosis of the lunate in a 12-year-old girl is described. Conservative treatment resulted in a clinically normal wrist at three years' follow-up, despite obvious radiological changes.**

### INTRODUCTION

Kienböck's disease, or lunatomalacia, is an avascular necrosis of the lunate bone, the aetiology of which is unknown. The mean age in large series is 28 years, involving a predominance of males. It is uncommon in children. The treatment in adults is still a matter of controversy. In children most authors propose nonoperative management although more aggressive approaches have been reported recently.

We report a new case in a child with a follow-up of three years.

### CASE REPORT

A 12-year-old right dominant girl was seen with a 6-month history of wrist pain on the right side. She was in generally good health. The pain was related to motion. There was no nocturnal pain. The wrist was fairly stiff with extension of 35° and flexion of 45°. All movements were painful. The grip force was reduced (9.5 kg) compared to the left side (18 kg). Watson's scaphoid shift test was positive. The wrist was tender on the dorsal side.

The radiographs showed stage III lunatomalacia. The ulnar variance was - 3.5 mm (fig 1). A routine biochemical examination was within normal limits. Relative rest was advised. Sports were not allowed, until the pain resolves.



*Fig. 1.* — Initial radiographs

During regular follow-up the pain decreased over  $\pm$  5 months. She was seen at 2 1/2 years' follow-up. In the mean time her menarche started at 13.5 years.

She had no pain at all in the wrist. The range of motion was strictly symmetrical. The wrist was painfree, even on persistent pressure over its dorsal

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Fig. 2. — Radiographs at 3 years follow-up

aspect. The scaphoid shift test was negative. The grip force was 20 kg on the right side compared to 22 kg on the left side. The radiographs still showed deformation of the lunate (fig 2).

### DISCUSSION

Only a few cases of Kienböck's disease in children have been published, in children as young as seven years (3, 5, 7, 8). Various associated pathologies have been noted : dermatomyositis (6), multiple exostosis (1), cerebral palsy (4).

Up to 12 years, conservative treatment is generally recommended. Two cases treated by radial shortening and one case with temporary scaphotrapezoid fixation (9) had a successful outcome. In another case with radial shortening, a recurrence was observed 16 months later (2).

In our case, a very conservative approach was proposed. The child had no particular risk factor. The general health was normal, and the ulnar variance was only slightly negative.

Although the radiological aspect of the lunate did not change noticeably, the carpal alignment remained unchanged. The clinical outcome, on the contrary, improved remarkably : a stiff, swollen and painful wrist evolved over one year to a mobile and pain-free wrist.

We agree with most authors and recommend nonoperative management.

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