

Oral presentation

## **Surgical treatment for Scheuermann's juvenile kyphosis: presentation of four cases**

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### **Background**

Surgical treatment is reported to be rarely necessary for Scheuermann juvenile kyphosis. Significant deformity, thoraco-lumbar location, and back pain are considered indications for surgery.

### **Objective**

The aim of the study is to present the patients surgically treated for Scheuermann juvenile kyphosis during ten years of our department activity.

### **Methods and materials**

Since 1999, 110 patients were admitted for conservative treatment of Scheuermann juvenile kyphosis. The number of out-patient treatments were not accessible. Four patients (4% of hospitalized patients) underwent surgical treatment. The age of surgery was 16, 16, 17, and 18 years respectively. The sagittal thoracic T4-T12 Cobb angle was 80°, 85°, 80°, and 100° respectively. The level was middle thoracic. The reasons for surgery were the following: back pain not alleviated with conservative therapy, and deformity unacceptable for the patient.

The surgery consisted of posterior correction with Cotrel-Dubousset instrumentation and spinal fusion using autologous iliac bone graft. The sagittal Cobb angle was measured before and at surgical follow-up on a standing long cassette lateral spinal radiograph.

### **Results**

The postoperative sagittal Cobb angle was 36°, 42°, 38°, and 70° respectively: the values equivalent to the pre-operative supine fulcrum bending test. There was no loss of correction (5° or more) in the follow-up period in three patients. One patient (patient 2) presented with implant dislodgement at 24 months after surgery, accompanied by deep infection around the instrumentation, requiring removal of implants. In this patient, the correction was lost from 42° to 80° at 5 years follow-up. The clinical result was satisfactory in the three patients but insufficient in one. No patient revealed back pain at follow-up.

### **Conclusion**

During the past 10 years in this department, surgical correction of Scheuermann juvenile kyphosis was performed in 4% of patients, those who presented an unacceptable and painful deformity. Operation resulted in important angular correction equal to a pre-operative supine bending test. Late postoperative complications caused loss of correction in one patient.