Reviewer’s report

Title: Painful rib hump. A new clinical sign for detecting intraspinal rib displacement in scoliosis due to neurofibromatosis.

Version: 1 Date: 10 May 2006

Reviewer: Tomasz Kotwicki

Reviewer’s report:

General
This case report involves an interesting subject of neurological risk related to dystrophic spinal deformities in the course of neurofibromatosis. Although relatively rare, the pathology and specificity of management of patients with neurofibromatosis occupy an important place in the practice of specialists in spinal disorders. Particularly difficult in conservative treatment, dystrophic scoliosis or kyphoscoliosis usually require early combined anterior and posterior surgery.

The paper attaches attention to a rare complication - the dislocation of one or more ribs into the spinal canal through intervertebral foramina. The possibility of such a complication has already been reported. The new and relevant contribution of the paper is defining the painful rib hump as a clinical sign helpful in detecting the complication. The value of the sign is its simplicity. As idiopathic scoliosis only occasionally causes tenderness in the rib hump, the palpation of ribs is usually not practiced during orthopedic examination of scoliotic patients. The paper states that this clinical sign can and should be systematically checked in patients with scoliosis due to neurofibromatosis.

As the problem potentially concern both surgeons and conservatively treating physicians as well as physiotherapists, the paper is worth publishing in “Scoliosis”.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

None

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

The number of cases reported previously is given as eight (Abstract, line 4). The inspection of seven bibliographic positions titles (4-10) reveals more cases reported because there are four cases reported by Legrand et coll. and three cases reported by Major and Huizenga.

“foramina” is incorrectly used by the authors instead of single “foramen” (line 5 of Abstract, line 11 of Case report, but not line 5 of Discussion if the authors wanted to suggest that both superior and inferior foramen may be penetrated by the rib head)

“lower limps” should be replaced with “lower limbs” (line 11 of Abstract and line 7 of Case report) and “cephaled” with “cephalic” (line 12 of Abstract and line 10 of Case report)

In Abstract line 13 the word “left” should be added before “eighth rib” to clarify the text.

In Background line 2 the word “been” may be omitted.

The sentence of Case Report: “The costovertebral (joint?) rib displacement was at the apex...entered to the spinal cord (canal?) and compressed it (spinal cord?)” needs to be revised for its grammar and logic.

Was the spinal cord compressed or not?, as in the next sentence “The MRI examination of the spine showed neither cord abnormality” Isn’t the spinal cord compression an abnormality?

Discretionary Revisions (which the author can choose to ignore)
1. The postoperative CT scan could be added to demonstrate rib head resection, if the authors dispose of it.

2. The authors made an extensive search in the literature and found 7 related articles. It is a pity, in the Discussion the authors made no analysis of previously published cases and no comparison with their own case (apical or other rib displacement, convex or concave, one or more ribs displaced, age, sex etc.).

3. The description of the case could consider additional information not given in the paper: was there a family history?, were CT scans performed only at apical level? (end vertebra of the curve was involved in one case reported by Major and Huizenga)

4. The term ‘intraspinal rib displacement’ may be accepted as widely used in the literature, even if ‘intracanalicular’ seems a precise description.

6. The quality of image of x-ray from figure 1 is poor. This is partially a technical problem but also the effect of a sharp kyphoscoliotic deformity, typical for neurofibromatosis. A schema related to this x-ray would be helpful for a non-experienced reader. The lateral standing X-ray would show the relation of the apex of scoliosis to the apex of kyphosis.

By the way, the reviewer noticed an image of local concavity in the relief of left thorax as represented in figure 1. This disturbance of the left lateral margin of the thorax may signify medial translation of the rib and corresponds to the eighth dislocated rib. The quality of the image does not allow to see it clearly. Could the authors comment on whether the fact of rib dislocation may be observed on this X-ray? Thus the rib dislocation might be suspected both clinically (painful rib hump) and radiologically (medial rib displacement on standard X-ray)

**What next?:** Accept after minor essential revisions

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable