

## IMAGES IN CLINICAL RADIOLOGY

### *Hypermobile coccyx syndrome*

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A 40-year-old woman referred to the radiology department because of pain in the region of the coccyx. There was no abnormality neither localized tenderness or swelling in the sacrococcygeal region. She had difficulty in defecation but gastrointestinal pathology such as stool test for occult blood was negative. For radiological examination lateral and postero-anterior X-rays and MRI studies were obtained. On the X-rays the distal part of the coccyx was not very clear. It was impossible to make any diagnosis especially in the distal coccygeal area but MRI study showed abnormally inward curve in the distal part of the coccyx (arrow) with iliococcygeal part of the levator ani muscle and precoccygeal soft tissue edema (curved arrow) (A, B).

#### *Comment*

Hypermobile coccyx, which is one of the leading cause of coccyx pain, appears as an abnormally curved or flexed coccyx exceeding 25°. Four anatomic configurations according to its distal curve have been described by Postacchini and Massobrio. The distal intercocygeal joint angle increases from type 1 to type 4 accordingly. The coccyx subluxes at the intercocygeal joint in type 4 (1). Hypermobility is seen in type 3 and 4. While obese patients mainly have posterior subluxation, normal-weight patients mainly have hypermobility. This pathologic instability may give rise to chronic inflammatory changes (1). Hypermobility of the coccyx causes chronic friction of distal sacrum and coccyx resulting in bone and soft tissue oedema.

Single position X-ray studies usually are not diagnostic but instability can be detected on dynamic radiographs. The radiographs must be obtained in both the sitting and standing lateral positions of the coccyx and anterior hypermobility > 25° can be measured. Normally a coccyx pivots between 5° and 25° (1). Usually the distal part of the coccyx is difficult to evidence on standart X-ray studies as in our case. Bone scans can show inflammation in a hypermobile coccyx but it this feature is non specific. MRI demonstrates indirect signs of instability, such as bone and soft tissue oedema and measurement of the distal intercocygeal angle can be made easily. In our patient MRI very clearly shows soft tissue edema and an abnormally curved sacrum (A). Distal intercocygeal joint was 40° (between the arrows) (B). MRI helps ruling out the other possible causes of the coccyx pain such as tumor or fracture.

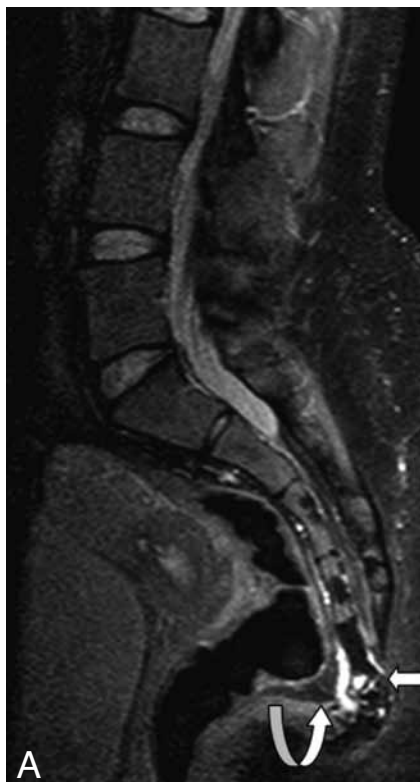
Nonsurgical management such as decreased sitting, using seat cushions, stretching, manipulation, local steroid or pain killer injections and postural recommendations remains important treatment choices. Our patient was improved after such recommendations with anti-inflammatory treatment like most patients.

Coccygectomy may be beneficial for the patients who fail to improve with these conservative treatments.

The MRI studies provides excellent anatomical detail and objective findings of organic lesions in coccygeal region.

#### *Reference*

1. Patel R., Appannagari A., Whang P.G.: Coccydynia. *Curr Rev Musculoskelet Med*, 2008, 1: 223-226.



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