Case Presentation

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A 22-year-old woman with chronic left hip pain and no relevant history. Physical examination revealed frontal groin pain associated with left hip rotational movements without claudication. Frontal X-rays (not included), MRI and CT were taken of both hips.

Findings and interpretation of imaging studies

The patient presented in our center with previous X-rays (not included), MRI and CT images taken at another center, and with a transient synovitis diagnosis. Transverse T2-weighted MRI images of both hips (October 21st, 2019) show bone edema at the left femoral head and neck, associated with joint fluid accumulation (Figure 1).

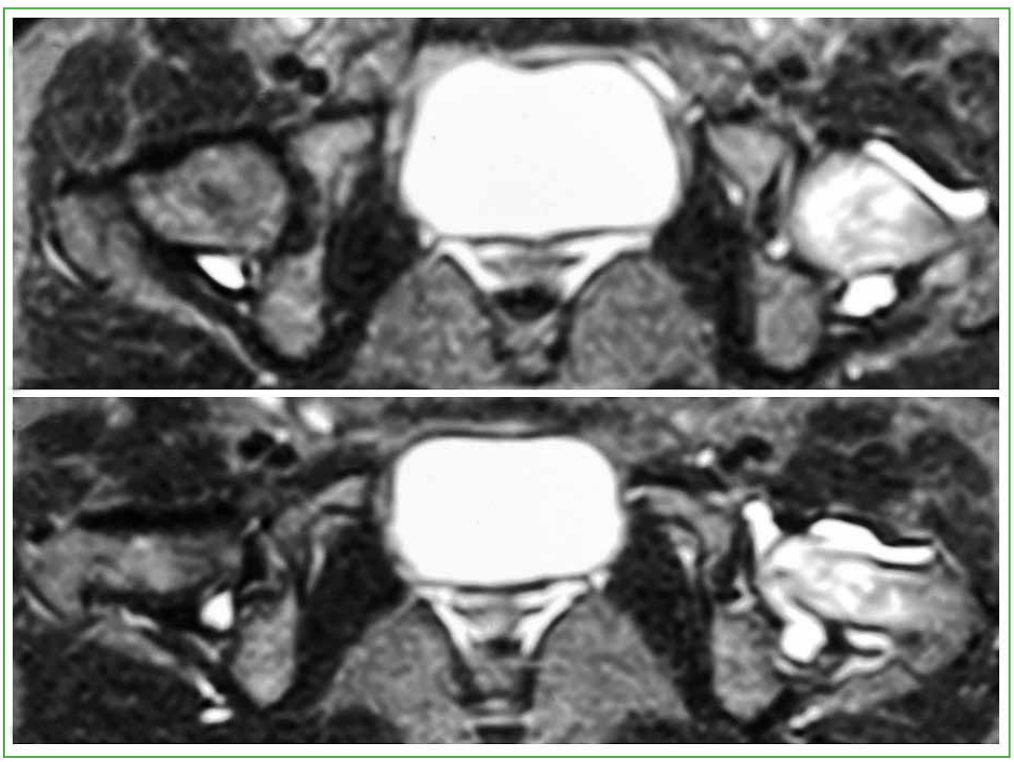

Figure 1. Transverse T2-weighted MRI of both hips. Image shows bone edema at the left femoral head and neck, associated with joint fluid accumulation.

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How to cite this paper: Trueba R. Postgraduate orthopedic instruction: imaging. Case presentation. *Rev Asoc Argent Ortop Traumatol* 2020;85(1):3-6. https://doi.org/10.15417/issn.1852-7434.2020.85.1.1044

The frontal section shows the same findings (Figure 2). A new CT of both hips was taken with axial and coronal reconstruction at the femoral head and neck levels to evaluate the bone structure (Figure 3). Findings suggest transient synovitis, and clinical treatment is prescribed.

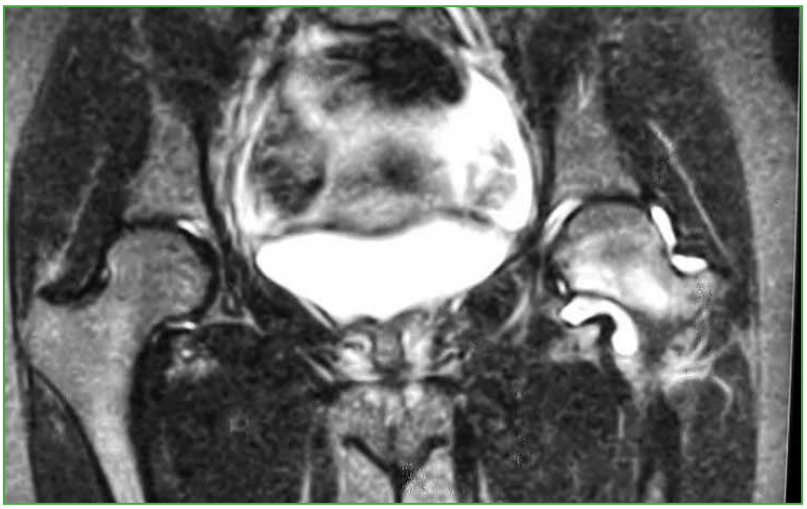

Figure 2. Frontal T2-weighted MRI of both hips. Image shows bone edema at the left femoral head and neck, associated with joint fluid accumulation.

Figure 3. CT of both hips with axial and coronal reconstruction at the femoral head and neck levels.

Two months later, we performed a control MRI scan of the hips (December 28th, 2019), frontal section on T1- and T2-weighted sequences. Images show persistence of the bone edema at the left femoral head and neck and of the joint effusion (Figure 4). Transverse sections on T1-and T2-weighted sequences show the same findings (Figure 5).

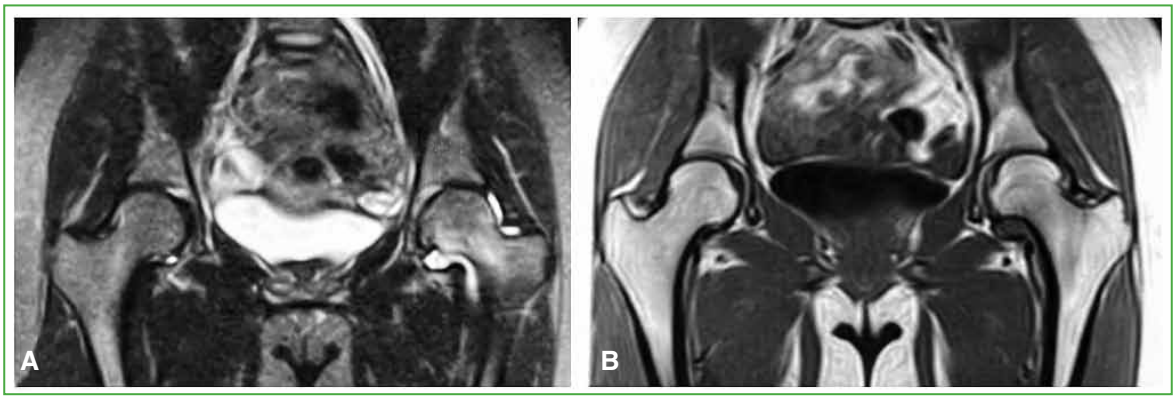

Figure 4. Frontal T1-weighted (**A**) and T2-weighted (**B**) MRI of both hips. Images show persistence of the bone edema at the left femoral head and neck and also of the joint effusion.

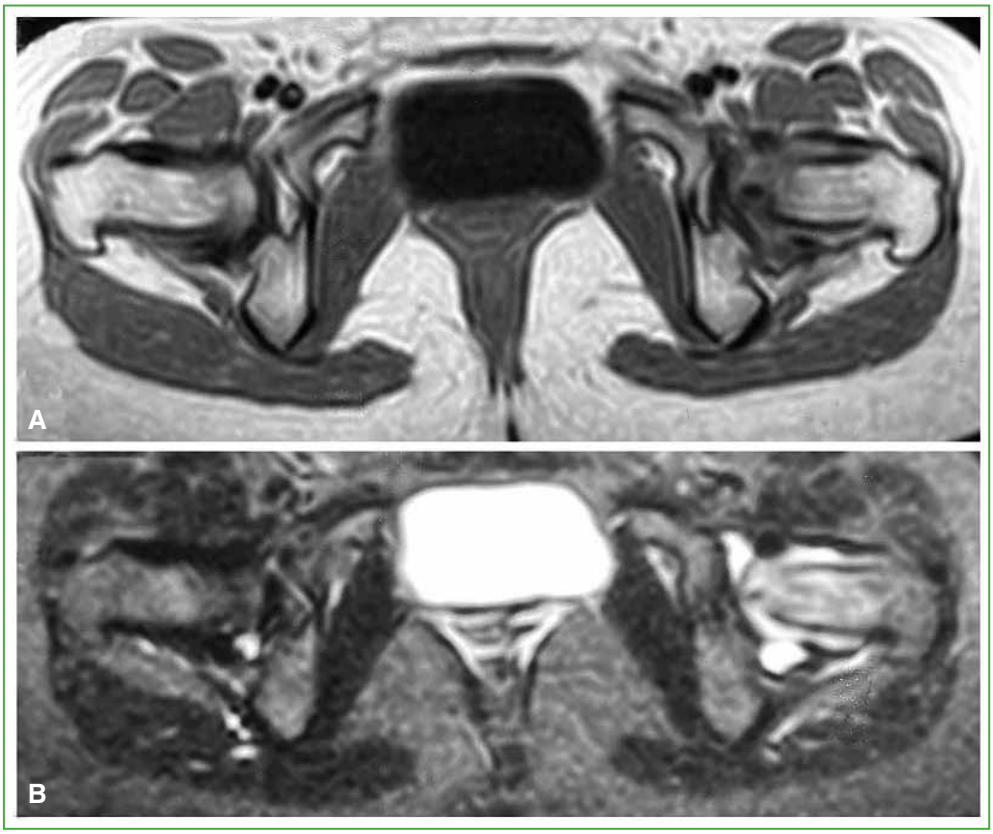

Figure 5. Transverse T2-weighted (**A**) and T1-weighted (**B**) MRI of both hips. Images show persistence of the bone edema at the left femoral head and neck and also of the joint effusion.

Due to the lack of clinical improvement and the persistence of the bone edema findings in the MRI scans, we performed a high-resolution cone-beam CT focused on the left femoral head. This imaging study allowed us to clearly recognize thickening of the inferior cortical of femoral head and neck junction and a radiolucent image of approximately 8mm with central sclerosis (Figure 6).

Figure 6. High-resolution cone-beam CT focused on the left femoral head. Image shows thickening of the inferior cortical and a radiolucent image of approximately 8mm with central sclerosis (arrows).

Conflict of interest: Author claims he has no conflict of interest.