

## STRESS FRACTURE OF THE FEMORAL NECK IN A YOUNG ADULT WITH MAROTEAUX-LAMY SYNDROME

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**A rare case of stress fracture of the femoral neck with Maroteaux-Lamy syndrome occurred in a 20-year-old woman. The healing was achieved by the use of an autogenous ipsilateral fibular graft.**

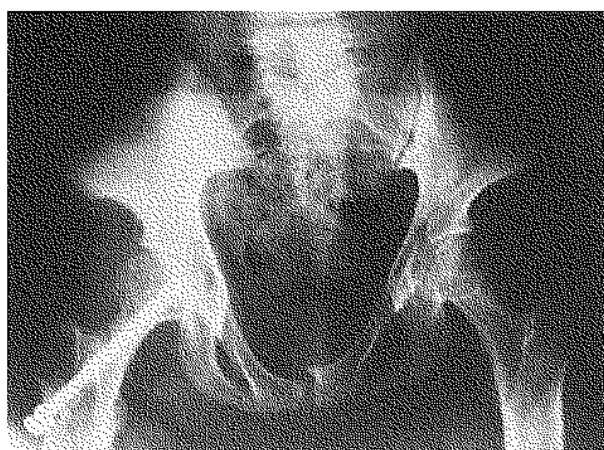
**Keywords :** stress fracture ; femoral neck ; fracture ; Maroteaux-Lamy syndrome.

**Mots-clés :** fracture de fatigue ; fracture ; col du fémur ; syndrome de Maroteaux-Lamy.

### CASE REPORT

A 20-year-old woman was diagnosed as having Maroteaux-Lamy syndrome by demonstrating a deficient leukocyte and fibroblast arylsulphatase B activity and mucopoly-sacchariduria, she was evaluated in another hospital for a 3-week history of pain in the right hip joint. She presented a transcervical stress fracture through the right femoral neck, which was abnormally thin and elongated. To prevent further displacement the fracture was internally fixed with a compression screw.

Because of persistent pain in the right hip joint 12 months later, the woman was taken to our hospital for another opinion. Physical examination revealed that the pain appeared at the extremes of range of motion of the right hip, and all movements were limited. Radiographs of the pelvis revealed a nondisplaced stress fracture of the right femoral neck, internally fixed (fig. 1). Since there was no clinical or radiological evidence of healing, a second operation was necessary.

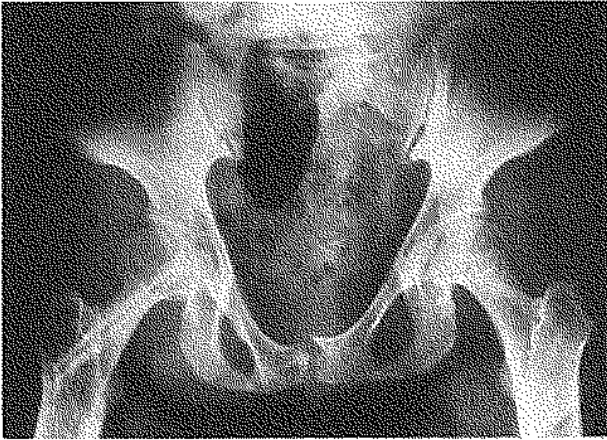


*Fig. 1.* — Radiograph of the pelvis showing a non-displaced stress fracture of the right femoral neck, internally fixed with a compression screw.

With an image intensifier and through a straight lateral incision we performed an autogenous ipsilateral fibular graft after extraction of the screw. She was not allowed to bear weight for the first 2 months. Full weightbearing was begun 3 months after surgery and 1 month later the hip was asymptomatic with a full range of motion. Radiographs 6 months after grafting showed obliteration of the fracture line (fig. 2).

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*Fig. 2.* — A radiograph of the pelvis showing healing of the fracture and good incorporation of the graft.

She has been followed for 3 years and has remained asymptomatic during this period.

### DISCUSSION

Stress fractures of the femoral neck have been described in the literature in young recruits undergoing military training (4), in athletes as a result of jogging (5), in patients with an anatomical abnormality of the femoral neck (1) and in patients with metabolic bone diseases such as osteoporosis, osteomalacia (2) or fibrous dysplasia (3). They have not previously been reported as the result of dysplastic bone in the Maroteaux-Lamy syndrome. Radiological features of upper femoral dysplasia are bilateral fragmentation of the capital epiphyses, coxa valga, bilateral hip subluxation and defective development of the neck. We think that the abnormal length of the neck and its small diameter make this bone biomechanically unsound. This is probably the most important factor in the etiology of the stress fracture.

In our case the fibular cortical graft provided osteogenic bone material and a structural support for the fracture repair.

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### SAMENVATTING

*J. GUIRAL, J. M. SANCHEZ en M. A. GONZALEZ. Vermoeidheidsfractuur van de femurnek bij een jonge volwassene met Maroteaux-Lamy syndroom.*

De auteurs beschrijven het geval van een vermoeidheidsfractuur van het collum femoris bij een 20-jarige vrouw, lijdens aan de ziekte van Maroteaux-Lamy. De chirurgische behandeling met een autogene homolaterale botente, gepreleveerd op de fibula, was gevolgd door een goede heling.

### RÉSUMÉ

*J. GUIRAL, J. M. SANCHEZ et M. A. GONZALEZ. Fracture de fatigue de col fémoral chez un jeune adulte présentant un syndrome de Maroteaux-Lamy.*

Les auteurs présentent un cas de fracture de fatigue du col fémoral chez une femme de 20 ans souffrant d'une maladie de Maroteaux-Lamy. Le traitement chirurgical avec greffon autogène ipsilatéral prélevé sur le péroné fut suivi de guérison.