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IMAGES OF SPINE CARE

Congenital lordoscoliosis and stenosis of the external ostium of the foraminal canal induced by a nonsegmented transversal bony bar associated to rachischisis and meningocele

A female patient presented for medical checkup at the age of 5 years because of hypoplasia of the left lower limb and a minor lordotic deformity of the lumbar spine. We decided just monitoring the patient. The patient neglected the worsening of the hypoplasia and lumbar lordosis and presented again at the age of 15 years because of the presence of a left L3 radicular syndrome.

Preoperatively, the lordotic deformity was unaesthetic, and the radicular syndrome intensified and got permanent. The lumbar area presented skin marks: hypertrichosis, pigmented spots, and a dermal sinus.

The X-rays and magnetic resonance imaging exams showed a T11–L3 thoracolumbar scoliotic curve of 25° Cobb and a 62.1° lumbar hyperlordosis, the normal values corresponding to the age of 16 years being 36.7±7.6° [1,2] (Fig. 1). The computed tomography scan showed a longitudinal bony bar disposed oblique, unifying the posterior somatic part of L3 vertebra with the left pedicle, the basis of the L3 transverse process, and the L4 pedicular lamellar junction. The three-dimensional computed tomography scan in posterolateral view showed a trapezoidal L3 vertebra and a significant narrowing of the intervertebral space due to a synostosis of the posterolateral parts of L3 and L4 vertebrae. The stenosis of the external ostium of the L3 foraminal canal is obvious, from inside to outside the canal looking like a funnel (truncated cone; Fig. 2). The posterior thoracolumbosacral spine segment, distally to T11, presented a rachischisis with defects of formation. The fusion defect was due to the nonunion of the primary lateral posterior centers. The magnetic resonance imaging scan highlighted a fusiform meningocele and the presence of a diplomyelia corresponding to the T12–L1 spinal segment.

Surgery consisted in a posterior approach centered on T10–S2 followed by left L3 foraminoplasty, meningocele's repair, and posterior synthesis with the correction of the scoliotic curve and hyperlordosis.

Clinical and radiologic follow-up 1 year after surgery highlights the disappearance of the L3 radicular syndrome and a lumbar lordosis in normal range with a 35° Cobb (Fig. 3).

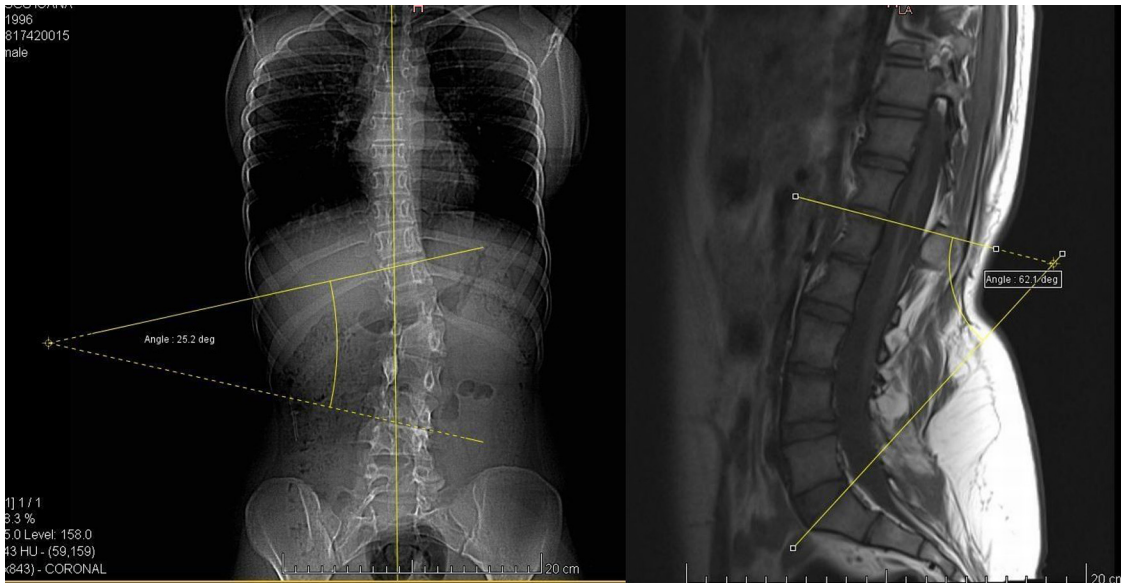

Fig. 1. Frontal and sagittal spine deviations showing a thoracolumbar scoliosis of 25° and a lumbar hyperlordosis of 62° Cobb.

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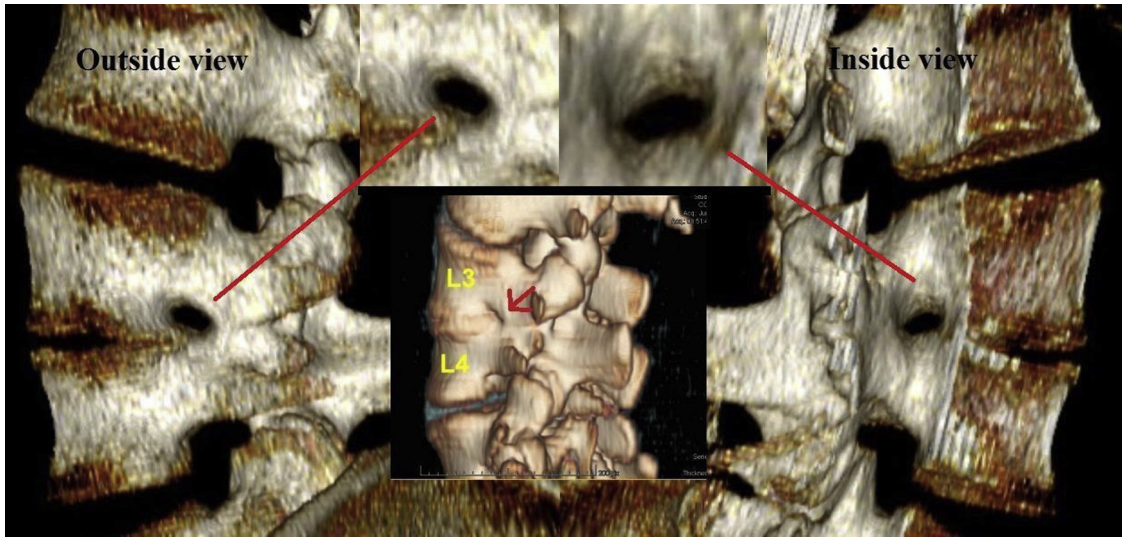

Fig. 2. Three-dimensional computed tomography reconstruction: The outside view (posterolateral incidence) confirms the stenosis of the external foraminal ostium and the L3–L4 somatic synostosis. The outside view highlights an internal foraminal ostium of normal dimensions, creating a funnel-like image. The unsegmented somatic pedicular transverse lamellar bony bar (center-red arrow).

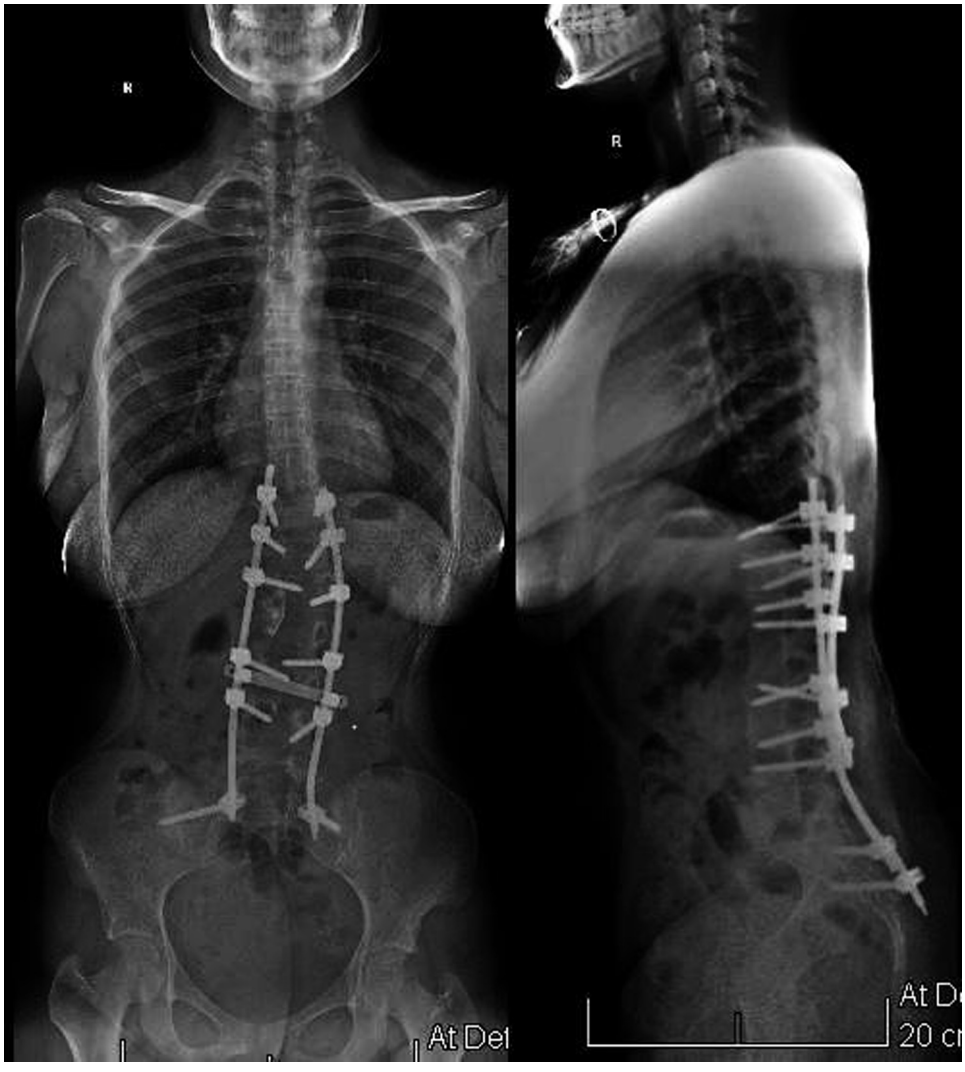

Fig. 3. X-rays 1 year postoperatively shows proper frontal and sagittal balance of the spine.

References

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