Diastematomyelia in Adults*

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The term "diastematomyelia" in its strict sense refers to a developmental defect in which the spinal cord, or its intraspinal derivatives, is divided longitudinally into lateral halves. Ollivier is credited with the origination of the term in 1837, deriving it from the Greek "diastema," meaning cleft, and "myelos," meaning "marrow" and subsequently spinal cord or medulla. Clinical usage of the term, however, has tended to designate those cases of cord-splitting in which the cord is transfixed by a septum. Most authors differentiate this type of malformation from diplomyelia (double medulla) which is a true duplication of the cord.

Diastematomyelia is rarely diagnosed in adults; only four cases have been described in which the diagnosis was established during the lifetime of the patient. A fifth case is known to us through personal correspondence. Since clinical awareness of this entity was aroused in 1950 through articles by Matson and Neuhauser, more than 100 clinical cases have been described, mostly in children, in whom disturbance of gait, failure of bladder control, and congenital cutaneous defects are the most common features.

We are reporting two cases of diastematomyelia in adults.

Case Reports

Case 1. A 48-year-old man entered the hospital with spasmodic pain, weakness, and tremor in the right leg of 3 months' duration. The symptoms began after a 50-mile ride in a pickup truck.

Examination. Neurological examination showed a spastic paraparesis, loss of pain and temperature sensation over the sacrum, and an unusual patch of hair in the lumbosacral region. Low back films showed a circular calcified shadow at L-5 in the upper portion of a spina bifida occulta (Fig. 1). Lumbar myelography (Fig. 2) demonstrated widening of the spinal canal in the lumbosacral region, a bizarre termination of the dural sac, a filling defect in the center of the oil column at L-5, and a partial block at the L1–2 interspace. It was felt that the partial block was due to a transverse bony ridge secondary to lumbospondylosis.

Operation. A laminectomy was performed from T-9 to L-5. The spinal cord was greatly lengthened and was divided by a bony spur projecting dorsally from the body of L-5. The bony spur was surrounded by a sleeve of dura mater. The nerve roots in the low lumbars region left the spinal cord at right angles. Several adhesions contributed to traction on the cord. A transverse bony ridge was present at L1–2. The spur and dural sleeve were removed, and the adhesions were lysed.

Postoperative Course. The patient was temporarily worse, developing a paraplegia and urinary and fecal incontinence. He received intensive physiotherapy, and 20 months after surgery had better bladder control and was walking with mechanical aids, though he was still spastic.

Case 2. A 32-year-old woman developed a flaccid paresis of her left leg after a saddle block anesthesia for her fourth delivery. No bowel or bladder difficulty developed. She had had three uncomplicated saddle blocks in the past.

Examination. There was a flaccid paresis of the muscle groups of the left leg and sensory losses in the saddle area and along the medial thigh and calf. Lumbar spine films disclosed a spina bifida occulta at L-3 (Fig. 3). Myelography was carried out at the L1–2 interspace, revealing diastematomyelia at L-3 (Fig. 4). It was elected to follow the patient conservatively, reserving surgical intervention until the symptoms became worse.

Discussion

Although first described in 1837, diastematomyelia had not been identified outside the
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Fig. 1. Case 1. Plain spine film showing calcified nodule in spina bifida defect at L-5.

Fig. 2. Case 1. Myelogram showing widening of spinal canal, filling defect at L-5, and partial block at L1-2 interspace.