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The Operative management of Diastomatomyelia, a study of eleven cases and their outcomes

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ABSTRACT

Diastomatomyelia is a congenital anomaly of the spinal cord in which the cord is split at one or more levels due to a spur. It is important to excise this spur to prevent neurological deficits with growth.

Eleven cases have been operated over six years with an average age of ten years. Surgery was performed on a spinal table under general anesthesia in the prone position. The spur is identified and excised. Postoperative management includes antibiotic prophylaxis and early mobilization.

The outcomes are uniformly good and the emphasis should be on early excision since the condition is easily manageable.

KEYWORDS : Congenital, spine, diastomatomyelia, tethering, scoliosis

Introduction

Diastomatomyelia is a Greek term coined by Oliver in 1937 which means a cleft in the medulla. This is a congenital anomaly of the spinal cord in which the cord is divided at one or more levels by a spur which could be fibrous, bony or cartilaginous. The dura is divided into two around the spur with the cord contents. Since the child will grow in height, there will be an upward migration of the cord and at some point this would cause a neurological deficit. This makes it important to identify the spur and excise it in the symptomatic child to improve the neurology and prevent a worsening deficit.

There is a case for observation in an asymptomatic child instead of prophylactic surgery which would involve careful sequential documented neurological examinations with the parents being counseled of the possibility of immediate surgical intervention in the event of a deficit developing.

Material and methods

In this series, eleven patients were operated upon over a period of six years. The average age of the patients was nine years. Eight were girls and three boys. All patients were examined clinically, had x-rays and pre operative MRIs to confirm the diagnosis and determine the level and extent of surgery.

Patients were operated under general anaesthesia on a spine table in the prone position. Approach was via a posterior midline incision and paraspinal muscles retracted off the lamina. A laminectomy was performed at the affected levels maintaining facet joint integrity.

Once the spur was identified and the normal level above and below was exposed, the spur size was assessed and then dissected free of the surrounding dura. Extreme care was taken to prevent cord handing at all times. The spur was then excised using fine nibblers. Since the spur broadens at the base, the last part was excised using an electric burr to complete the removal and smoothen out the base. The spur generally contains a vessel that bleeds and needs to be controlled. The filum terminale is identified either through the same incision or a lower incision and cut to prevent problems with cord tethering later. The wound is closed in layers over a negative suction drain.

Postoperatively the patient is given 24 hours of antibiotics and is allowed to move about as able.

Results

None of the patients operated upon developed any additional neurological deficit. Patients with deficits pre operatively eventually recovered to normal neurology over period varying from weeks to months with a maximum of six months to full recovery.

Table 1

Average Age	9 years
Sex	Male: 3 Female: 8
Cutaneous defect	Tuft of hair: 9 Subcutaneous lipoma: 2
Neurological deficit	Ankle jerk lost: 9 Loss of sensation: 1 No deficit: 1
Post opearative complications	None

Discussion

Diastomatomyelia is a congenital condition and leads to neurological deficits over time especially at the growth spurt. The condition is easily treatable with surgical excision which is a relatively simple spinal procedure with very little to no risk to the patient. When detected in a symptomatic child it should be immediately managed. Although in an aymptomatic child there is a role for observation and careful documented neurological examinations, it is recommended that these patients too be treated early as prophylactic in nature. The purpose of surgery is to prevent a future neurological deficit.

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