Case Report

Pedunculated Lipoma in Lumbosacral Region: A Case Report with its Embryological Basis
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Abstract

Pedunculated lipoma on the back is a rare condition with preconceived notions and stigmata. It is also called a human tail or a caudal appendage. They could be either ‘true tail’ or ‘pseudo tail’ based on their embryology. Clinically, they are considered as a marker of occult spinal dysraphism. We report a case of pedunculated lipoma on sacral region of the back which was associated with tethered cord. This patient needs meticulous evaluation and appropriate management.


Introduction:

Caudal appendage or “the human tail” is a curious and rare condition, which was initially thought to be an evidence of man’s descent from or relation to other animals. It has even been made a subject of superstitious belief, especially in Asia. Although such malformations might not have a deeper connection to the neurospinal axis, they are frequently considered to be cutaneous signatures of occult spinal dysraphisms and malformations of the spinal cord.¹ There are several reports of “human tails” causing tethered cord syndrome.² We report a case of “human tail” or caudal appendages associated with tethered cord. We briefly discuss its presentation and management strategies along with their embryology.

Case report

A 5 years old girl born to non-consanguineous married parents presented with a tail like appendage arising from midline of the lower back since birth. The appendage had gradually increased in size with growth of the child. The appendage was arising from a sessile swelling in the lower lumbosacral region. The swelling was noncompressible, nonfluctuant, nonreducible, without any impulse on coughing. There were no neurological deficits, and growth and development were age appropriate. Magnetic resonance imaging (MRI) showed that the cord was ending at S3 level with a portion extending into the subcutaneous fatty tissue suggestive of lipomeningocele. The child underwent excision of the appendage, subcutaneous lipoma along with detethering of the cord and dural reconstruction. The child made an uneventful recovery.

Fig.-1: Pre-operative picture of pedunculated lipoma on the back.

Fig.-2: Pre-operative MRI scan of the lumbosacral region.

References:

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Discussion

At 5–6 weeks, human embryo has a tail with 10–12 vertebrae. This regresses by fusion of vertebrae, leaving the vestigial coccyx. The embryonic tail disappears by the 8th week; persistence may lead to formation of a true tail. However, the current concept of the embryology of this malformation is that the tail structure is a form of congenital dermal sinus tract resulting from premature or incomplete disjunction of the somatic and neuroectoderm during primary neurulation. This theory is consistent with the more common cases of human tail. Other possibility is that this disorder may be caused due to disorder of secondary neurulation. As secondary neurulation with formation of tail bud begins prior to completion of primary neurulation, a disorder of the secondary neural tube or notochord could possibly affect closure of the neuropore and result in spinal cord lipoma and abnormal tail bud regression. An early disorder may result in spinal lipoma and tethering and later ones may cause persistence of tail bud without spinal anomalies. In cases where such lesions are associated with lipomeningomyelocele, it has its origin in secondary neurulation and lipomeningomyelocele from primary neurulation. The caudal appendages or “tails” have been classified as true tails or pseudotails. The “true persistent vestigial tails” are vertebrate, caudal, midline protrusion capable of spontaneous or reflex motion, consisting of skin covering a combination of muscle, adipose and connective tissue with normal blood vessels and nerves. The “pseudotails” are caudal protrusion composed of other normal and abnormal tissues. This classification system has embryological importance without clinical significance. The classification by Lu et al. of human tails with or without tethered cord appears to be more practical and clinically relevant. They proposed that the caudal appendages are “true tails” when it is a benign condition, a prolongation beyond the coccygeal or midgluteal region, and not associated with any underlying malformation. It needs only simple excision. In contrast, the caudal appendages occurring with spina bifida occulta or spinal dysraphism are “pseudotails.” These appendages are only a cutaneous sign of underlying spinal dysraphism since the skin and nerve system are related by their similar ectodermal origin. Preoperative evaluation and complex surgical intervention are usually necessary. Occasionally, congenital heart disease, anal and vaginal atresia, and horseshoe kidney are reported to be associated with such disorders, and careful preoperative evaluation is required. Various lengths of caudal appendage ranging from 1 to 20 cm have been reported to arise at various levels at the upper lumbar region to coccyx. Associated abnormalities of the skin, including hypertrichosis, hyperpigmentation, dermal sinus tracts, and hemangiomas, are reported. Lu et al. had reviewed 59 cases in literature on human tails from 1960 to 1997. Nearly half had an associated spinal dysraphism. Of the 16 cases where imaging was available, it revealed a tethered spinal cord in 81%. Rarely, the cutaneous appendages itself may be having continuity with intraspinal lipoma causing tethering of the cord. A case of “bony human tail” causing tethered cord has also been reported. Hence, caudal appendages and its association with tethering should always be kept in mind before considering surgery. We reported a case true tail which was not associated with underlying spinal cord anomalies. It had only tethered cord. We excised the tail, unteherd the cord and repaired the dural defect. The MRI images especially the sagittal views might
give a false impression, and hence, during surgery, it
is of utmost importance to carefully dissect and try to
locate any tract which might connect the appendage
with the intraspinal lipoma or tethering.

Conclusion
We report a case of pedunculated lipoma on sacral
region of the back which was visually appearing like
human tail and was associated with tethered cord.
The associated social stigma and the possibility of
development of new deficits as it grows make it vital
to identify this case early and intervene appropriately.

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