

ISSN 1220-8841 (Print)
ISSN 2344-4959 (Online)

ROMANIAN
NEUROSURGERY

Vol. XXXIX | No. 2

June 2025

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Amira Benhafri,
Manal Bendahgane,
Hayat Ouadi,
Lynda Atroune

DOI: 10.33962/roneuro-2025-028



Human dorsal pseudotail. A rare congenital anomaly case report with review of literature

Amira Benhafri, Manal Bendahgane, Hayat Ouadi, Lynda Atroune

Department of Neurosurgery, EHS Ali Ait Idir, Algiers, ALGERIA

ABSTRACT

There are two different types of human tails: real tails and pseudotails. While pseudotails can be an abnormal extension of the coccygeal vertebra, lipoma, teratoma, chondrodystrophy, or parasitic fetus, true tails are made of adipose tissue, connective tissue, muscles, arteries, nerves, and mechanoreceptors. We are going to present a case of dorsal pseudotail in a 06 months old infant.

INTRODUCTION

The human tail is an uncommon anatomical occurrence and a topic of considerate curiosity. Early scientists had a concept of recapitulation including ontogeny and phylogeny, or "reversion to a lower species," because of the human tail (1). The predominant site of the human tail is the lumbosacrococcygeal area, there have been no reports of dorsal pseudotails. The presence of a human tail is an indicator of underlying spinal dysraphism and tethered cord, which may be linked to neurological issues (2, 5). Only about 40 cases have been reported so far, the first case to be reported dates back to 1881 (4). We present an additional case and review the literature.

CASE REPORT

A 06 months old female child was presented to our outpatient department with history of a dorsal tail-like structure since birth. The mother had no significant antenatal history and family history was also not contributory.

On examination, the child had 5.7 cm-long tail shaped soft tissue appendage arising from dorsal region which was fleshy with bony content, non-translucent, completely covered by sensate skin, no obvious meningocele and had no spontaneous movement [Figure 1]. The remainder of neurological examination was uneventful. CT scan [Figure 2] and magnetic resonance imaging (MRI) of the spine [Figure 3] showed a dorsal bone formation of 69 mm at the height of D1, a syringomyelic cavity opposite this formation, opening of the posterior arch from C7 to D5 and L4 posterior arch closure defect.

Keywords
human tail,
pseudotail



Corresponding author:
Amira Benhafri

Department of Neurosurgery, EHS
Ali Ait Idir, Algiers, Algeria

chikou15@hotmail.com

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ISSN online 2344-4959
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Neurosurgery



First published
June 2025 by
London Academic Publishing
www.lapub.co.uk

Our patient underwent excision of the vestigial tail [Figure 4] and made an uneventful recovery. Microscopy of the excised tail showed skin tissue made of a thinned epidermis over a dermis which contains sweat glands, pilosebaceous follicles and small vessels. Deeper we found adipose tissue which surrounds an osteocartilaginous tissue. Absence of glial tissue and meningeal structures. At one month follow-up, the wound had healed well and a neurological examination was normal at subsequent monthly follow-up.



Figure 1. Dorsal congenital pseudotail in our patient



Figure 2. CT Scanning showing the pseudotail.

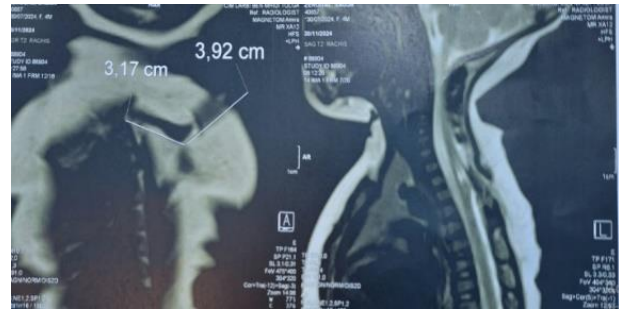


Figure 3. MRI showing the malformation.



Figure 4. Excision of the pseudotail.

DISCUSSION

The human tail is an uncommon and benign congenital condition. As stated by Lu et al., the occurrence of a human tail is an aberration in fetal development, not a regression in the evolutionary process (6).

Human tail is a midline protrusion in the caudal region composed of muscle, adipose tissue, and skin (1). During the fifth and sixth weeks of gestation, the human embryo develops a tail with 10-12 caudal vertebrae (2). The tail typically regresses with fewer vertebrae and fusion, leaving the vestigial coccyx. It normally fades by the eighth week of gestation (2).

Bartelet et al. suggested the first classification of human tails in 1884 (4). He divided human caudal tails into four types based on their morphology and the presence of osseous tissue. Dao and Netsky (2) defined human tails as real or pseudotails based on histology in 1984. According to this classification, true tails contain muscle, adipose tissue, and connective tissue, whereas pseudotails contain bone, cartilage, and notochord remains. In 2016, a

new taxonomy of human tails was proposed, with five categories: soft tissue caudal appendages, bony caudal appendages, bony caudal prominence, true tails, and additional caudal appendages (4).

Lin *et al.* proposed another classification scheme in which a lesion in the lumbosacral area is classified as a pseudo-tail, regardless of whether it is linked with spinal dysraphism. However, if the same lesion is located in the gluteal or coccygeal region, the presence of other lesions is critical in determining the diagnosis; it is classified as a pseudo-tail if there are any accompanying vertebral or spinal lesions, and as a real tail if not (6). Nonetheless, each of these classifications is more useful for embryology than clinical practice. Clinically, it is difficult to distinguish between the vestigial tail and pseudotails (3).

True human tails are not inherited; however, a case has been recorded in which three female generations from the same family were born with true human tails (6). The incidence of actual human tails is twice as high in males as in females, while the exact incidence is unknown. There have been less than 40 cases recorded in the literature so far (4). CT scanning and an MRI of the spine are necessary to delineate the underlying disease and assist in surgical planning and prognosis (5).

The management of a true tail involves straightforward removal for aesthetic purposes, whereas the approach for a pseudo tail necessitates excision accompanied by the treatment of the underlying neural tube lesion. True tail 'cosmesis' is assessed at follow-up, whereas pseudo tail is assessed neurologically in the affected spinal region (6).

CONCLUSION

True human tails are simple skin extensions with an excellent outcome and only require an excision. However, pseudotails are potentially complex lesions with underlying vertebra or spinal anomaly, necessitating additional diagnostic work-up and specialized surgical procedures.

The goal is to distinguish actual tails from pseudotails and to provide appropriate therapy, since the lack of understanding of the condition may raise concerns about their prognosis and the best management options.

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