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A Rare Case of Urachal Sinus

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Abstract: ***The urachus is a tubular, midline structure, located preperitoneal in the centre of a pyramidal shaped space, lined by obliterated umbilical arteries with its base on the dome on the bladder and the tip directed towards the umbilicus. Abnormalities in the closure of the intraembryonic portion of the allantoic lumen result in urachal abnormalities. Incidence of Urachal sinus is about 15% and is more common in children, rare in adults. Here we are presenting a rare case of a 24-year-old male who presented with swelling and discharge from umbilicus and on clinical examination and investigations with USG and cystogram was diagnosed to have urachal sinus which was treated surgically by excision. Histopathology report of the excised tract showed features suggestive of urachal sinus. Post operative period was uneventful.***

Keywords: urachus, allantois, cystogram

1. Case Report

A 21-year-old male presented to General Surgery OPD Kamineni Hospital Narketpally, with complaints of moderate swelling, redness and discharge from umbilicus for 1 week (figure-1). No other associated complaints. Swelling and redness were insidious in onset, not associated with pain, no aggravating and relieving factors. Discharge was scanty, serous, non – foul smelling. On examination abdomen was soft, no visible swellings, scars and sinuses. Umbilicus is in the centre showing reddish discoloration with serous discharge. On palpation a tender cord like structure was felt in the infra umbilical region with a length of about 3 cm.

Routine investigations were done. Ultrasound study showed a peri umbilical collection measuring 7.2x4.2 mm extending into the pre peritoneal plane communicating with a blind ending tract few centimetres below the umbilicus. Urinary bladder had normal thickness. X ray Cystogram with contrast did not show any fistulous tract or communication with umbilicus or any bladder diverticula. (Figure-2). Patient was hence diagnosed to have infected remnant of urachus with no communication with bladder.

The patient was treated with antibiotics and Surgical excision of the tract. Intra operatively a fibrous tract with proximal lumen of about 2 to 3 cm with distal obliteration was present in the midline extending from umbilicus downwards. (Figure-3). Tract was excised and sent for histopathological examination. (Figure-4). Intra and post operative period was uneventful.

HPE report indicated chronic inflammatory disease. He was discharged with medications and was advised follow up. The patient had come for follow up after 2 weeks then 4 weeks and then after 3 months. He was examined and there was no recurrence of the condition.

2. Discussion

The urachus is a tubular, midline structure, located pre peritoneal in the centre of a pyramidal shaped space, lined by obliterated umbilical arteries with its base on the dome on the anterior bladder and the tip directed towards the umbilicus. It is an embryonic remnant resulting from involution of the allantoic duct and the ventral cloaca. Attaching the bladder dome to the umbilicus the urachus should close during gestation [1]. If this structure fails to regress, leaving complete patency, a fistula forms between the bladder and the umbilicus. This is manifested by urine draining from the umbilicus. Partial patency of the urachus will result in a cystic dilation in which both ends are obliterated, forming a urachal cyst. Urachal cysts may occur at any point along the course of the urachus but do not communicate with the umbilicus or bladder. They present as tender, midline swellings between the umbilicus and the symphysis pubis [2]. If the urachus is only patent at the umbilicus a urachal sinus forms, which is usually associated with a proximal urachal cyst presenting as a cystic swelling at the umbilicus. other types of urachal abnormalities are urachal diverticulum which is persistent tissue at the bladder and no connection to the umbilicus. patent urachus is complete patency, free communication between bladder and may present as umbilical cord cyst. The type of discharge from umbilicus is usually the clue to diagnosis. Persistent clear fluid leakage in an infant is suggestive of patent urachus whereas cloudy, bloody discharge is suggestive of urachal sinus or cyst. While ultrasound will often show the anomaly, a VCUG or sinogram can be used to confirm the diagnosis.

A patent urachus is purely congenital and accounts for about 50% of all cases of congenital anomalies. A urachal cyst (30%), umbilical-urachal sinus (15%), vesicourachal diverticulum (3 % to 5%), may close normally after birth but then reopen in association with pathologic conditions that are often categorized as acquired diseases [3]. The route of

infection may be lymphatic, haematogenous, or vesical, and a wide variety of grampositive and gram-negative micro-organisms have been cultured from infected urachal remnants. As the urachus is lined by fascia disease process is usually confined to the pyramidal space. Most of the cases reported in literature are seen in children and very few cases have been reported in adult population [4]. Surgical treatment in children consisted of simple excision, whereas more than 50% adults required radical or partial cystectomy due to malignancy. Most common malignancy in urachal remnant is adenocarcinoma contrary to the lining transitional cell epithelium which usually gives rise to transitional cell carcinoma. This is due to metaplasia changes in the long-standing urachal remnant [6]

Common presentation of urachal sinus in adults is abscess formation in infraumbilical region. Unless diagnosis of infected urachal sinus is made with index of suspicion, simple drainage of abscess may result in recurrence. Studies have shown that spontaneous resolution with non-operative management is likely to occur in patients younger than 6 months [5]. Because there is evidence that a patent urachus will be obliterated with time, surgery is generally avoided in patients younger than 1 year. If excision is required it can be performed via open or laparoscopic approach. Excision of urachal remnants by surgery is curative though decision making is a dilemma in patients who are asymptomatic and diagnosis is incidental on imaging.

3. Conclusion

Urachal remnants are often recognized and managed in childhood, but rarely some maypersist into adulthood, with a greater risk of morbidity and difficulty in pre operative diagnosis. Urachal sinus is a blind dilatation of urachus at the umbilical end and is subject to infection. The anatomy and imaging of these urachal diseases is essential for proper diagnosis and interventions. Knowledge of such rare urachal remnant anomalies is essential for general surgeons and urologists. This case is presented here to emphasize the rarity of the presentation in adulthood and correct approach to be followed by surgeons in treatment of such rare cases.

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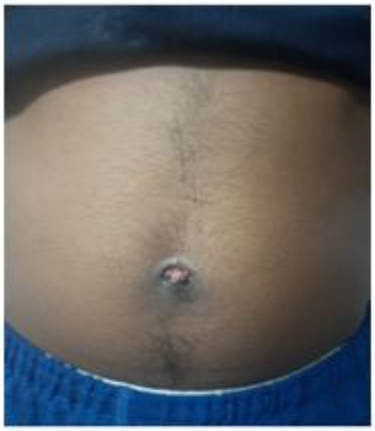

Figure 1

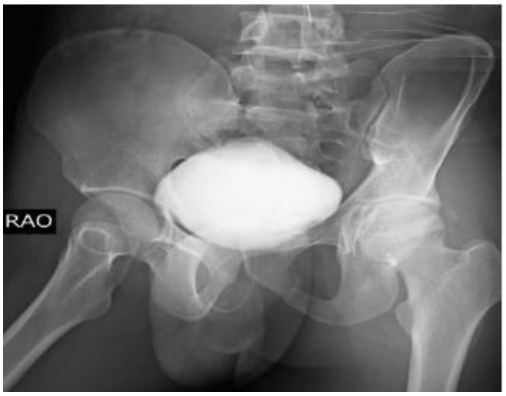

Figure 2

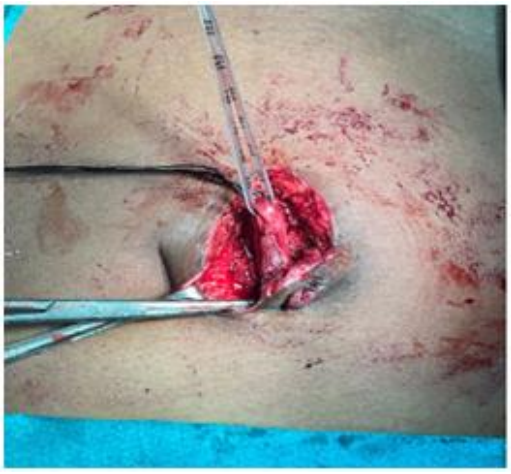

Figure 3

Figure 4

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