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Patent Urachus with Patent Vitellointestinal Duct: A Rare Case

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Case Report

Abstract: A variety of vitellointestinal duct anomalies are known with variable frequencies and its association with patent urachus is also known occasionally. Here we are reporting one rare case of patent urachus with patent vitellointestinal duct.

Introduction:

Patent vitellointestinal duct (PVID) is one of the complications of incomplete obliteration of the vitelline duct (i.e. omphalomesenteric duct) with incidence varying from 1 in 5000 to 8000 live births. It usually presents as feculent or serous discharge through the umbilicus. During the 3rd week of intrauterine life there is a communication between the intraembryonic gut and the yolk sac. As the development proceeds this communication narrows into a tube known as the vitellointestinal duct (VID). With the establishment of placental nutrition this duct usually becomes obliterated by the end of the 7th week of intrauterine life. In about 2% of humans this duct persists and gives rise to a group of anomalies of which Meckel's diverticulum is the commonest and complete patency of the duct is the rarest.(4)

A patent urachus (PU) is a communication from the umbilicus to the bladder and is a rare disorder with an estimated incidence of 1-2 per 100 000 deliveries. Affected infants present with continuous or intermittent drainage from the umbilicus. Crying, straining, voiding, or the prone position may accentuate intermittent drainage. Combined presence of both the anomalies along with the ischemia of the prolapsed ileum is rarely documented in the English medical literature (1).

Case Report:

A 6 weeks old male baby admitted with complaint of swelling on umbilical region since 15 days

Pt. was apparently alright after the full term normal vaginal delivery after fall of umbilical cord prolapsed part is seen at umbilicus associated with yellowish discharge. Past history revealed that he was a full term and normal vaginal delivery, conducted at hospital and weighed 2.9 kilograms. Antenatal period was uneventful though unmonitored sonographically. Baby cried immediately after birth. Within the first week itself, parents noticed that there was feculent discharge from wide umbilical opening. Occasionally there was also discharge of clear fluids when baby cried excessively. Baby was shown to local doctors but umbilical discharge did not stop. Meanwhile baby took feeds and passed urine and stools normally. But as patient was not getting relieved of umbilical discharge, he was taken to hospital for further management. Provisional diagnosis of PVID was made and patient after a routine investigation protocol was taken for exploration.

Surgical Procedure:

Laparotomy was done through transverse sub-umbilical incision. On exploration, Urachus was found connecting the apex of the bladder to the umbilicus.(Fig. 1) It also drained little urine and could be palpated within the bladder making confirmed diagnosis of patent urachus. PU was dissected off the umbilicus and ligated.

Patent vitellointestinal duct was found to be connecting the ileum with umbilicus (Fig. 2) and was resected and primary end to end anastomosis was done.(Fig 3) A long appendix was an incidental finding. A prophylactic appendectomy was done. Incision closed in monolayer fashion.(Fig. 4)

Patient had smooth and uneventful recovery and was discharged with follow up advice.

Intraop Findings

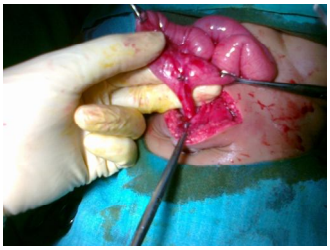

Fig 1. *Patent VID*

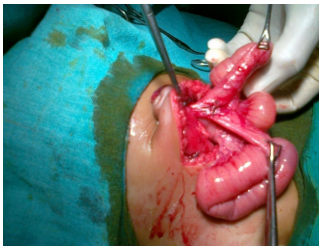

Fig 2*. Patent Urachus*

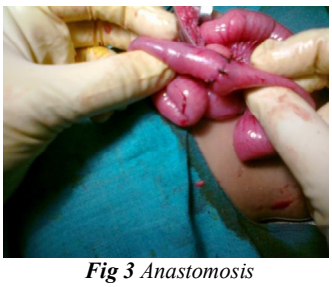

Fig 3 *Anastomosis*

Fig 4 *Vitellointestinal duct with umbilical granuloma with large appendix after removal*

Discussion:

Remnants of Vitellointestinal duct account for a wide variety of umbilical abnormalities that may require surgical correction. These remnants include fistulas, sinus tracts, cysts, mucosal remnants & congenital bands. Patient may present the anomaly itself or due to complications secondary to the anomalies like intestinal obstruction due to volvulus, intussusceptions or adhesions (2-3). Totally Patent VID is an infrequent but well known anomaly with limited number of cases reported in the literature. Associated patent urachus along with PVID is much rarer and we could find only one case in the literature in support (1). Though rare in presentation, the anomaly can easily be diagnosed. It is preferable that such cases should be referred to higher centers where pediatric surgical facilities are available.Surgical management in the form of excision of PVID and end to end anastomosis of ileum is the rule. Excision of patent urachus can be carried out simultaneously.

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