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An Acute Abdomen Due to Rotation of Intestines Around Urachal Duct in a 27 Years Old Man: A Case Report

[1] Ahmad Reza Shahraki, [2] Elham Shahraki

[1] General Surgeon, Assistant Professor, Department of Surgery, Zahedan Medical Faculty, Zahedan University of Medical Sciences, Zahedan, Iran

[2] Associated Professor, Department of Internal Medicine, Nephrology, Ali Ibne Abitaleb Hospital, Zahedan University of Medical Sciences, Zahedan, I.R., Iran

Corresponding Author: **Ahmad Reza Shahraki**

Abstract

Abnormalities in the closure of the intraembryonic portion of the allatoic lumen result in urachal abnormalities. Urachal remnant diseases are rare in adults. Malignant urachal neoplasms, like adenocarcinoma which may probably occur due to metaplasia of the transitional epithelium of the urachal remnant are very rare. Surgical excision of the urachus is needed. The imaging features of the urachal abnormalities are important for correct diagnosis and surgical management. In this case we completely resect that duct and return the part of bowels to the basic situation and we send those parts to pathological labs. The congenital patent urachus is rare in adults. Further, clinical diagnosis is delayed or ambiguous in these patients due to low incidence and non-specific symptoms. So, a high index of suspicion is required in order to make the diagnosis and to prevent subsequent complications. Early detection of urachal anomalies can help optimize an appropriate surgical approach if required and reduce the risk of subsequent development of malignancy.

Keywords: Urachal Duct, Acute Abdomen, Urachus, Surgery

Background

Urachal cyst is an uncommon congenital anomaly that typically presents in older children. It very rarely presents in adults and the incidence is largely unknown in this age group. It arises from the incomplete obliteration of urachus, which is a primitive structure that connects the umbilical cord to the fetal bladder [1].

Abnormalities in the closure of the intraembryonic portion of the allantoic lumen result in urachal abnormalities. Urachal remnant diseases are rare in adults. Malignant urachal neoplasms, like adenocarcinoma which may probably occur due to Metaplasia of the transitional epithelium of the urachal remnant are very rare. Surgical excision of the urachus is needed. The imaging features of the urachal abnormalities are important for correct diagnosis and surgical management [2]. This work has been reported in line with the SCARE 2020 criteria [3]. This case shows every RLQ pain and tenderness is not related just to appendicitis.

Case Presentation

Our case was a 27 years old man that referred to surgery clinic by nausea, vomiting, fever, and illness at first, we admitted him and did physical exams that we found he has had tenderness and rebound tenderness in RLQ on lab data we found leukocytosis and increase in PMNs, at results on Alvarado-Score we prepare him for appendectomy and did classic appendectomy by McBurney's point cut and when we opened peritoneum, we saw connection between umbilicus and terminal ileum that other part of small intestine turns around this part that contains vessels and anatomy.

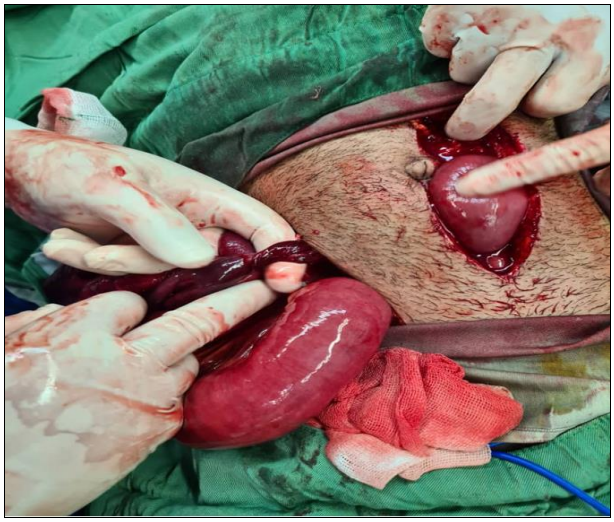

Fig 1: Structure of bundle

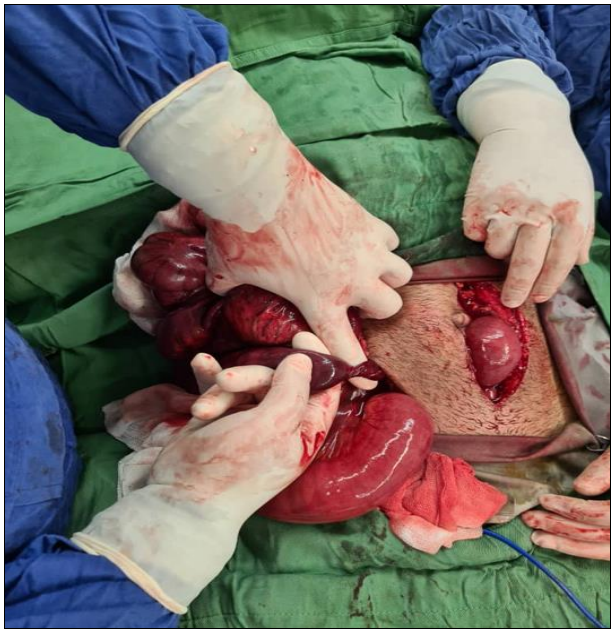

Fig 2: Rotation of small intestine around this bundle

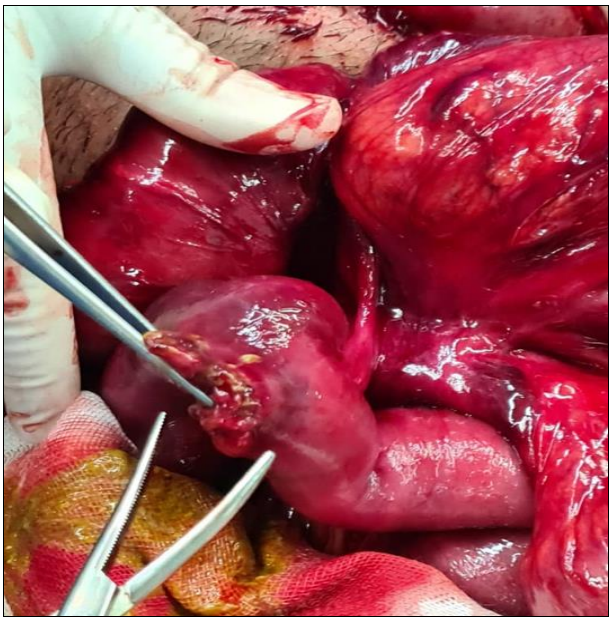

Fig 3: Adhision band and open part of small intestine

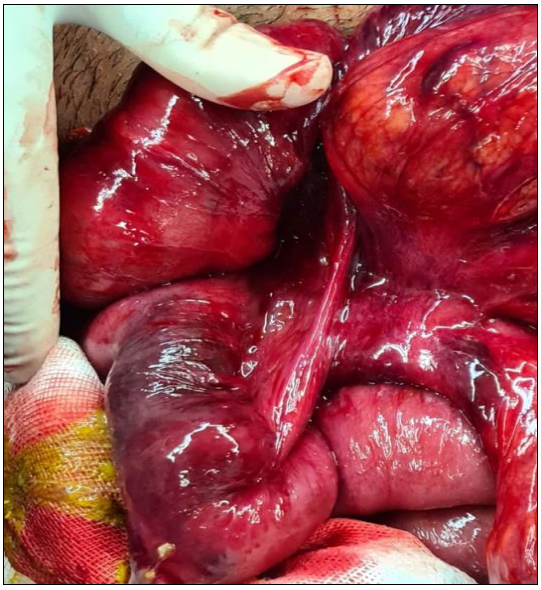

Fig 4: Adhesion part, change color and fecal secretion

Conclusion

The urachus is a midline structure arising from the anterior aspect of the fetal bladder which in turn is derived from the ventral part of urogenital sinus [1]. During the later part of fetal life, the urachus progressively obliterates and is replaced by a fibrous tract in early adult life.2 Failure of this obliteration can lead to anomalies of the urachus such as patent urachus, urachal sinus, and urachal cyst [4]. Umbilical-urachal sinus consists of blind dilatation of the urachus at the umbilical end. A small opening into the umbilicus is generally present and may result in periodic discharge [5-6]. The congenital patent urachus is rare in adults. Further, clinical diagnosis is delayed or ambiguous in these patients due to low incidence and non-specific symptoms. So, a high index of suspicion is required in order to make the diagnosis and to prevent subsequent complications. Early detection of urachal anomalies can help optimize an appropriate surgical approach if required and reduce the risk of subsequent development of malignancy [7].

The patient was successfully managed surgically without any evidence of recurrence in further assessment.

Declarations

Ethical Approval and Consent to Participate

The content of this manuscript are in accordance with the declaration of Helsinki for Ethics. No committee approval was required. Oral and written consent to participate was granted by her husband.

Consent for Publication

“Written informed consent was obtained from the patient's legal guardian for publication of this case report and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.”

Availability of supporting data

It is available.

Competing interests:

The author declares that they have no competing financial interests and nothing to disclose.

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Authors' Contribution
Ahmad Reza Shahraki is the surgeon of patient and writes this paper. Elham Shahraki collects data's and reviews.
The authors declare that they have no competing financial interests and nothing to disclose.

Acknowledgements
Only in uncommon circumstances of unclear imaging findings or deterioration in the patient’s conditions, a diagnostic laparoscopy as a minimal invasive approach may settle the diagnosis and can be extended to a therapeutic maneuver**.**

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