PATENT URACHUS

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E. Balık, M.D.* / İ. Ulman, M.D. / A. Avanoğlu, M.D.****

* *Associate Professor, Department of Pediatric Surgery, Ege University, Faculty of Medicine, İzmir, Turkey.*
** *Research Assistant, Department of Pediatric Surgery, Ege University, Faculty of Medicine, İzmir, Turkey.*

SUMMARY
Patent urachus is a congenital anomaly which results from the failure of the obliteration of the ventral aspect of the cloaca. Careful history and physical examination usually suffice to make the diagnosis. A neonate with patent urachus is presented, diagnostic and therapeutic implications are discussed.

Key words: Urachus, cloaca

INTRODUCTION

Failure of obliteration of the urachus is an uncommon event in embryogenesis which creates different types of urachal anomalies, most of them requiring surgical correction. Patent urachus, in which the entire tubular structure remains intact has the leading frequency among the other types of urachal anomalies (Fig. 1) (1). In as many as 50% of bladder dissections, microscopic communications exist between the urachus and the bladder. Symptomatic patency however, seems to be rare, with fewer than 500 cases having been reported in the literature (2). A neonate with patent urachus is presented, diagnostic and therapeutic implications are discussed.

Case Report

A 15 days old female neonate was admitted to Pediatric Surgery Department of Ege University Hospital with leakage of a clear fluid from the umbilicus on the attempt of micturition. No significant event in the maternal history was noted. She had been born with a caesarien section delivery without any perinatal problem. On the physical examination, she weighed 3250 g and the length was 52 cm. The baby looked healthy and active. The close examination of the umbilicus revealed a hyperemic fistula opening 1 mm in diameter. The active leakage of urine out of this fistula was observed while the baby was voiding. No other pathological finding was observed on the physical examination. Her laboratory values were: Hb 16.2 g/dl, Htc 54%, WBC 10800/mm^3, total protein 6.5 g/dl, blood urea 28 mg/dl, blood glucose 140 mg/dl. Leukocyturia was noted in urine sediment. A fistulogram was performed by injection of contrast material via a catheter inserted through the fistula opening (Fig 2). Fistulogram showed the patency of the urachus with the full bladder. Intravenous urography (IVU) revealed no abnormality.

The patient was operated under general endotracheal anesthesia. With a median inferior incision, the tract of fistula and the bladder was exposed extraperitoneally by the help of the cathether in the fistula tract. Fistula tract was completely excised, the bladder and the umbilicus were repaired. Pathologic examination of the fistula showed transitional epithelium of the urachus. The baby recovered uneventfully and was discharged from the hospital on the fifth postoperative day. Leukocyturia disappeared postoperatively.

DISCUSSION

The allantois obliterates at about the third month of gestation and the ventral aspect of the cloaca continues to elongate as the urachus. It further narrows during the fourth and fifth months and eventually, obliterates to a fibrous cord at or about the normal time of birth (3). Any failure in this obliteration will result in any one of several urachal anomalies (Fig 1).

It is usually not so difficult to diagnose a patent urachus with a careful history and physical examination. However, a fistulogram or a cystogram may be useful in conforming the diagnosis. Ultrasound may be helpful in the diagnosis of urachal cyst or diverticulum. Since a high incidence of genitourinary anomalies is reported with patent urachus, it is recommended to perform IVU routinely in patients with urachal anomalies (1).

Infection and malignity developing from the urachal remnants are the two main complications of these lesions (2,4). Patent urachus is also reported to complicate pregnancy (5).

Complete surgical excision of the urachus extraperitoneally with an infraumbilical incision is the treatment of choice. No major complication is reported related to the procedure.

A basic knowledge of the embryology and anatomy of urachal anomalies will allow the physician to make the prompt diagnosis.

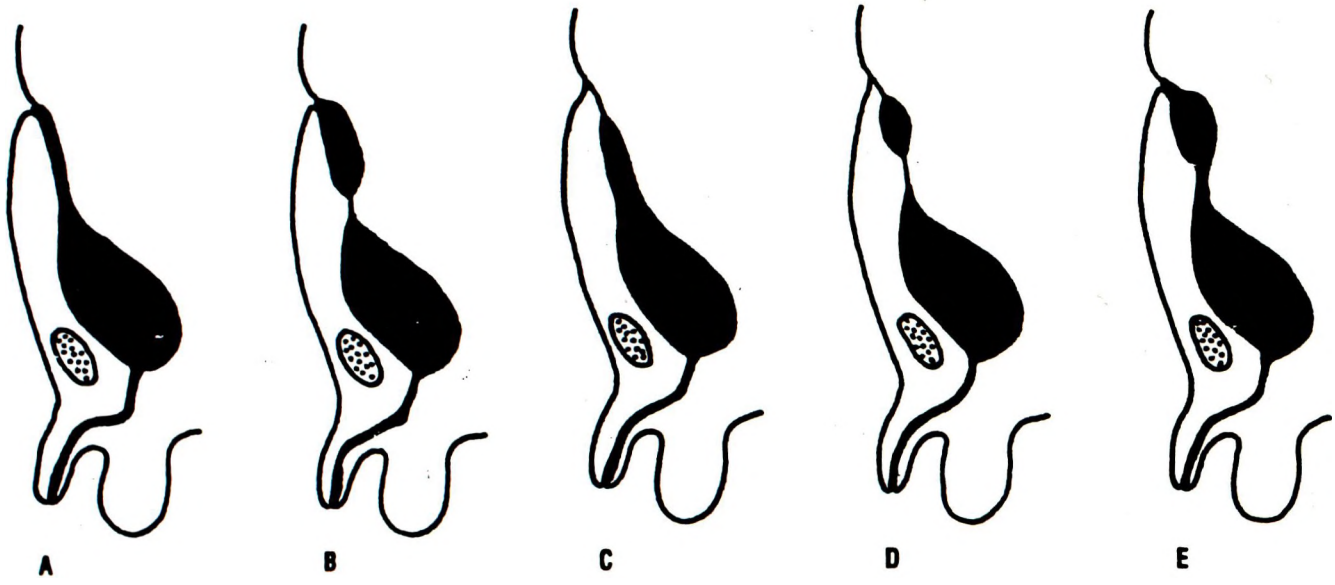

FIG 1. Types of urachal anomalies: (a) patent urachus, (b) urachal sinus, (c) urachal diverticulum, (d) urachal cyst, (e) alternating sinus.

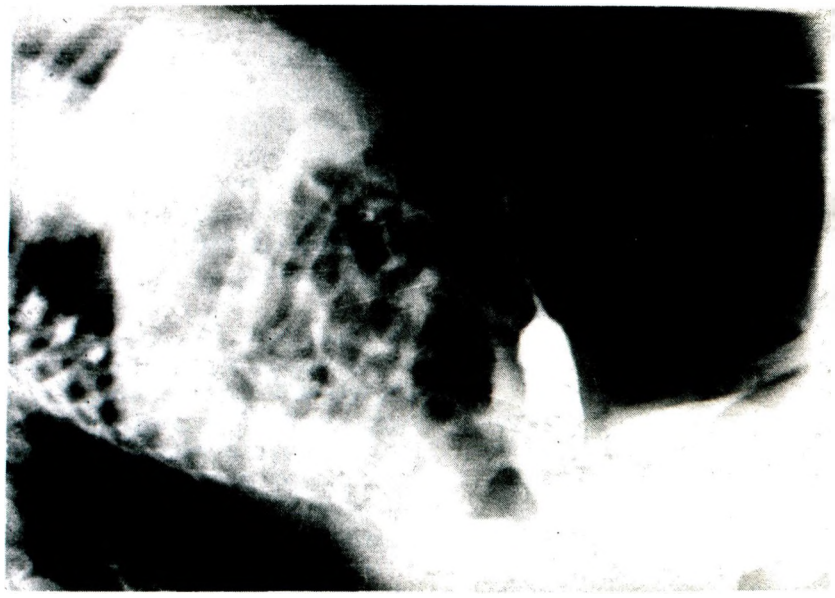

FIG 2. Fistulogram showing patent urachus.

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