

## SUCCESSFUL MANAGEMENT OF AN OMPHALOMESENTERIC FISTULE IN NEWBORN PERIOD

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*SUMMARY: Umbilical cord problems are the major causes of referrals to pediatric surgery clinics during newborn period and most patients present with a mass or drainage from the umbilicus. Here we present a male newborn with yellowish umbilical cord drainage on fourth day of life. Omphalomesenteric fistule was determined and the patient was operated successfully.*

*Key words: omphalomesenteric fistule, umbilical drainage, newborn*

### INTRODUCTION

The umbilicus functions as a channel that allows blood flow between the placenta and fetus and it has an important role in the development of the intestine and the urinary system (1). Umbilical cord problems are the major causes of referrals to pediatric surgery clinics during newborn period and most patients present with a mass or drainage from the umbilicus (29). Here, we report a newborn with omphalomesenteric fistule presenting with umbilical cord drainage on the first days of life.

### CASE REPORT

A-four-day old male was referred to the pediatric surgery clinic for the evaluation of umbilical cord drainage. The patient's perinatal course was uncomplicated and he was delivered vaginally at 40 weeks gestation as 3300 g of weight. One day following delivery he was discharged to home. On physical examination on

4th day of life, there was an atypical, hyperemic mass with yellowish, bad odor on umbilicus (Figure 1). After catheterization of the umbilical cord with a 8 french feeding catheter, an X-ray was performed with contrast material and omphalomesenteric fistule joining to ileum was diagnosed (Figure 2). Abdominal ultrasonography for evaluation of the possibility of additional anomalies was normal.

The patient underwent umbilical stump exploration under general anesthesia after performing routine hematologic and biochemical laboratory evaluations. The skin was incised circumferentially around the umbilicus and the layers along the fistule tract were incised. The fistule and the ileal segment that it connected were thrown out through the incision. The fistule that was around 10 cm length was dissected from the ileum, and afterwards the ileum was anastomosed (Figure 3). The operation was finished after umblicoplasty.

The patient's post-operative course was unremarkable, and he was discharged to home on the seventh post-operative day.

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## DISCUSSION

Omphalomesenteric duct is the embryonic structure connecting the primary yolk sac to the embryonic midgut and its malformations may range from a completely patent omphalomesenteric duct to fibrous cords connecting the umbilicus to the distal ileum, cysts, umbilical hernias, and Meckel's diverticulum (3-5). The omphalomesenteric duct normally closes between the 5th and the 7th week of gestation. At 10th week of gestation, whole intestine locates into the abdominal cavity and omphalomesenteric duct turns to a fibrous band (6). The persistence of an open duct is rare. If the duct partially obliterates leaving a blind pouch on the antimesenteric surface of the ileum, then Meckel's diverticulum develops, which is the most common anomaly in this spectrum with an incidence of 2% (7, 8). If the distal segment of the duct remains open, an omphalomesenteric sinus develops and if both ends of the duct remain open fistule with a discharge of fecal material develops (4).

About 60 deliveries take place in a day in our tertiary maternity hospital and those infants are followed by a neonatologist at early period of their life. Umbilical cord problems are referred to our pediatric surgery clinic. In a five-year period this is the unique patient that was diagnosed having an omphalomesenteric fistule.

Umbilical discharge should raise the suspicion of a patent omphalomesenteric duct (2). Umbilical granuloma is one of the pathologies with differential diagnosis of omphalomesenteric fistule (9). Umbilical granuloma responds to silver-nitrate stick. The presence of a lumen in the umbilical cord and yellowish drainage with bad odor similar to fecal mass should be considered as a patent omphalomesenteric duct (10). The exact diagnosis can be done by a fistulogram after catheterization of the duct by an opaque solution (4).

Urachal fistules are opened to the umbilicus and they should be remembered in differential diagnosis of omphalomesenteric fistule. The drainage of urachal fistule is like urine. The fistulogram shows that the fistule opens to the bladder (11).

Surgical excision, either by open or laparoscopic is the treatment of choice for omphalomesenteric fistule. Surgical procedure comprises of dissecting the skin around the umbilicus, reaching the intestinal segment that the fistule joints, resecting the fistule and anasto-



Figure 1: Red mass around the umbilicus



Figure 2: Fistulogram showing the omphalomesenteric duct



Figure 3: Fistule between the umbilicus and ileum.

mosing the intestinal segment. The surgery is finished by umblicoplasty (12).

In conclusion, we detected an omphalomesenteric fistule in a patient with yellowish drainage at umblicus

and treated successfully with surgical approach. Physicians and care givers should be aware of patent omphalomesenteric duct in patients with umbilical cord anomalies.

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