# VERY EARLY REDUCTION OF GASTROSCHISIS: REPORT OF A CASE

## *ERKEN REDÜKSİYON YAPILAN BİR GASTROŞİZİS VAKASI*

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*SUMMARY : A preterm male baby with prenatal diagnosis of gastroschisis was treated by immediate reduction of bowel after delivery with cesarean section. He also had both jejunal and colonic atresia which were repaired on the 24th day of his life. Oral feeding started on the 7th postoperative day. Prenatal diagnosis is critical to reduce the morbidity and mortality in gastroschisis. Very early reduction of bowel may be the choice of treatment especially if the transportation facilities are poor.*

***Key Words:*** *Gastroschisis, Jejunal Atresia, Colonic Atresia.*

***ÖZET :*** *Prenatal olarak gastroşizis tanısı konulan ve sezaryen ile doğumunu takiben barsakları hemen karın içine yerleştirilen preterm bir erkek bebek sunuldu. Bebekte aynı zamanda jejunal ve kolonik atrezi mevcuttu ve atreziler yaşamının 24. gününde onarıldı. Gastroşizisize bağlı morbidite ve mortalitenin azaltılabilmesi için tanının prenatal dönemde konulmuş olması çok önemlidir. Barsakların doğumdan hemen sonra karın içine itilmesi, özellikle hastanın nakil olanaklarının kısıtlı olduğu durumlarda, seçilecek tedavi yöntemi olabilir.*

***Anahtar Kelimeler:*** *Gastroşizis, Jejunal Atrezi, Kolonik Atrezi.*

### INTRODUCTION

Survival in gastroschisis is about 90% in developed countries (1, 2). Higher birth rate and lack of prenatal care in low socio-economic classes resulted in a very high mortality rate for gastroschisis in Turkey. Usually the baby was born by vaginal delivery without a prenatal diagnosis and improper transport facilities cause bowel necrosis and high mortality (3, 4). Here, the author describes a baby with a prenatal diagnosis of gastroschisis treated successfully by immediate reduction of bowel.

### CASE REPORT

A male baby prenatally diagnosed as having gastroschisis in another center had intrauterine transport to our center, and was delivered by cesarean section at the 36th week of pregnancy after a blood transfusion was given to the mother who was severely anemic. His birth weight was 2600 grams. The pediatric surgeon received the baby immediately after birth in the same operating theatre. The bowel, including the stomach, was outside the abdomen, it was edematous and looked atretic. Reduction was attempted with Bianchi method, but the large edematous mesenteric root which was also outside the abdomen prevented the reduction by blocking the opening on the abdominal wall. A small supraumbilical vertical incision was made without any additional anesthesia and the bowel was placed into the abdominal cavity. The defect was closed with 3 sutures. The procedure was completed in the first 15 minutes of life without much fluid loss from the baby. The baby slept during the procedure probably due to the effect of

anesthesia given to the mother.

He had a smooth recovery. A large bore orogastric tube was placed to drain the suspected jejunal atresia and TPN was begun. Bilious drainage did not decrease in 2 weeks and an erect abdominal x-ray showed air-fluid levels (picture). During this period, he had an echocardiogram due to his heart murmur which revealed mild peripheral pulmonary stenosis that did not need immediate treatment.

Fig. 1: Late abdominal x-ray of the patient showing air-fluid levels indicating jejunal atresia.

He had an exploratory laparotomy through a supraumbilical transverse incision on his 24th day of life. There were easily broken adhesions and the bowel was otherwise normal in appearance. A mid-jejunal atresia with moderate dilatation and good peristalsis was seen. There was meconium in the ileum and a transverse colonic atresia was detected as well. Frozen section biopsies were sent from all atretic ends. Ganglion cells were present in all. Jejuno-jejunal and colo-colic anastomoses were done.

He had an uneventful recovery except for a fungal sepsis attack. His bowel movement returned to normal on 7th postoperative day, he was fed mother's milk on 10th postoperative day and discharged on 30th postoperative day.

**DISCUSSION**

Prenatal diagnosis of abdominal wall defects permits us to decide the timing, location and method of delivery. When prenatal diagnosis of gastroschisis made, the baby can have intrauterine transport to a tertiary care center where a pediatric surgeon is available, as in our case. There is still a debate about the mode and timing of delivery once the prenatal diagnosis of gastroschisis is made. The etiology of bowel wall changes in infants with gastroschisis remains unknown. Amniotic fluid, gastrointestinal waste products and urine have all been implicated as possible causes (5, 6). To decrease the effects of amniotic fluid, while regarded as unnecessary by others (5, 8), preterm delivery was considered by some authors (8). Cesarean section is recommended to avoid injury to the exposed bowel by some authors (7) while others recommend vaginal delivery in the absence of obstetric reasons (9, 10). Cesarean section was performed for obstetric reasons in this case. For the successful management of these babies the two most important factors probably are timely prenatal diagnosis and delivery in a tertiary center to avoid complications such as bowel necrosis, hypothermia and fluid loss during transport (11).

Mortality in our center was 80% due to late and inappropriate transfer of gastroschisis patients who developed necrotic bowel. Bianchi approach had 50% mortality in our hands and the result was the same in a multicenter study in Turkey (12), and had 8% mortality in Bianchi's original series (1). In the Bianchi technique, reduction of the bowel is performed about four hours after birth. During this period, the baby is kept in an incubator until he/she is stable and measures are taken to prevent hypothermia and fluid loss. Aware of the complications during transport, the author decided to make an immediate reduction after birth as soon as the vital signs are stable. Presence of atretic bowel and a long, edematous mesenteric root prevented the reduction as happened in one of our earlier cases, so a small incision was made and the bowel was reduced without any other problems. The baby did not have fluid loss or hypothermia.

A survey in English language literature revealed that atresia repairs in gastroschisis were done around third week of life (2,13). Considering the baby's good clinical condition and the literature, the operation was planned in the beginning of the third week and was performed on the 24th day of life due to external

factors. The appearance of the bowel was normal except for some adhesion formation. Because of this appearance, instead of creating ostomies, anastomoses were done for both atresias. The locations of the atretic segments were implicating the mechanical effect of the gastroschisis defect.

Prenatal diagnosis of gastroschisis is very important in reducing mortality and morbidity in those patients because in utero transport to a tertiary center would be considered for delivery. Immediate reduction of bowel may be the best method of treatment for gastroschisis, especially if the transportation facilities are poor.

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