Case Report

MANAGEMENT OF A NEONATE WITH BILATERAL SYNCHRONOUS INCARCERATED INGUINOSCROTAL HERNIA COINCIDENT WITH BILATERAL CRYPTORCHIDISM

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ABSTRACT

Introduction: **An unusual case of 12-day old full-term infant with bilateral sycnchronous incarcerated inguinoscrotal hernia with bilateral undescended testes has been presented. The patient was brought with a gray-scale ultrasound report performed 8 hours ago in another center. Parents neglected the situation and 16 hours after the first onset of symptoms we performed emergency exploration. Intestines could be salvaged without any need for bowel resection. The right inguinal testicle had undergone hemorrhagic infarction and orchiectomy was performed. Dartos-pouch orchiopexy could be performed for the viable left inguinal testis. Diagnostic considerations have been discussed with special emphasis on the place of color Doppler imaging in acute scrotum.**

Key words: **Cryptorchidism, Inguinal Hernia, Neonate, Orchiopexy, Orchiectomy**

INTRODUCTION

Inguinal hernia is recognizable after birth as a bulge in the groin which may not appear until weeks, months or years later[1]. Symptoms suggesting an inguinal hernia, such as pain, irritability, colic, or incarceration, are present in about one fourth of infants[2]. An incarcerated hernia sac contains bowel that cannot be reduced easily into the abdominal cavity. Unless treated urgently, incarcerated hernias lead to strangulation by pressure on the herniated viscera causing impaired lymphatic and venous drainage, eventually leading to occlusion of arterial supply, gangrene, and sepsis. The incidence of synchronous bilateral hernia in children undergoing surgical repair has been reported as 8% and the occurrence of bilateral simultaneous incarcerated hernia is considered even more unusual[3]. Furthermore, the presence of cryptorchidism with incarcerated hernia is regarded as a rare situation which may pose serious problems[4]. We herein present a rare case of bilateral synchronous incarcerated inguinal hernia coincident with bilateral undescended testes and discuss diagnostic considerations and the outcome of our surgical management.

CASE REPORT and MANAGEMENT

A 12-day-old boy weighing 3.9 kg, who was born at 39 weeks of gestation in another hospital via spontaneous vaginal delivery to a healthy woman (para 3), was admitted to our clinic because of crying, abdominal distension, bilateral scrotal enlargement and erythema which worsened over the last 16 hours. About 8 hours prior to our admission, a gray-scale scrotal ultrasound had been performed in another center which revealed herniated intestinal loops filling bilateral scrotal cavities and bilateral testicles lying adjacent to the bowel segment in each inguinal canal with ultrasonographically normal size and echogenity (Figure 1), therefore, a color Doppler imaging was not performed during that examination. At that stage, the child's father had refused a pediatric surgery consultation and admitted to our clinic upon worsening symptoms. On physical examination the child was afebrile and in moderate distress, bilateral hemiscroti were enlarged with edema and erythema of the skin and would not transilluminate. Palpation revealed indurated mass in both hemiscrotal cavities. An emergency bilateral inguinal exploration was performed which revealed bilateral synchronous incarcerated inguinoscrotal hernia that was more severe on the right (Figure 2), bilateral undescended testes (Figure 3), and necrosis of the right testicle due to incarcerated hernia (Figures 2 through 4). Bowel segments on each side were immediately reduced back into the abdominal cavity and formal hernia repair was performed bilaterally without any need for bowel resection upon recovery of in-

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testinal vitality with body core temperature. Then a right orchiectomy was done, pathology of which confirmed hemorrhagic necrosis. The left testicle underwent classical dartos pouch orchiopexy. Postoperative recovery was uneventful.

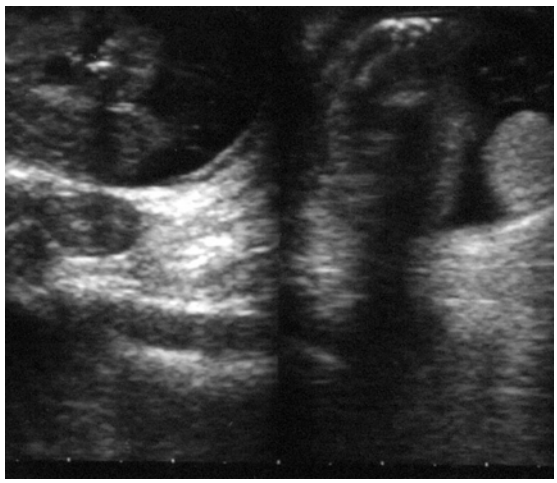

Figure 1: Gray-scale ultrasound showing intestinal loops in the right inguinal canal and adjacent testis with normal size and echogenecity.

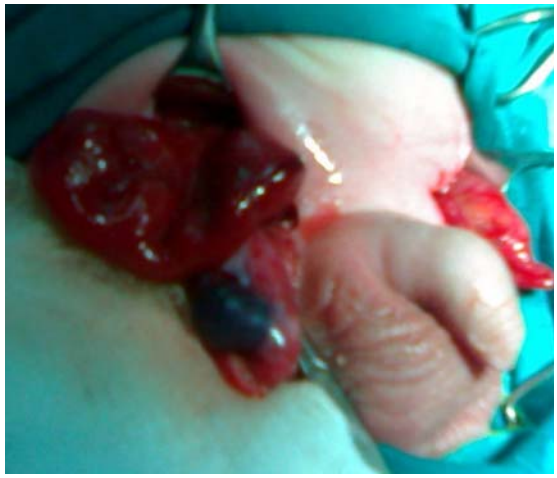

Figure 2: Severely strangulated intestinal loop which herniated from the right internal inguinal ring. The fate of right inguinal testis which underwent pressure necrosis is seen.

DISCUSSION

The case presented herein represents an unusual case of bilateral synchronous incarcerated inguinoscrotal hernia coincident with bilateral undescended testes in a full-term neonate. Main diagnostic considerations in this case are the negligence of the parents who made the first admission 8 hours after the onset of symptoms and inadequacy of the ultrasound examination. Most children with a symptomatic hernia present with a complaint of inguinal or scrotal pain and irritability. Typically, the parents notice a discernable bulge in the scrotum or inguinal canal in younger children which becomes more prominent as the patient cries, coughs, or stands[1]. Moreover, up to 21% of these hernias progress to strangulation or incarceration of entrapped bowel, which lead to serious complications such as intestinal obstruction, intestinal infarction, sepsis, and testicular or ovarian necrosis[1,3,5]. The incidence of incarceration is greatest in the first 3 months of life, as observed in our case[5]. Thus, acute scrotal swelling and irritability in a neonate should be considered an emergency and immediately investigated.

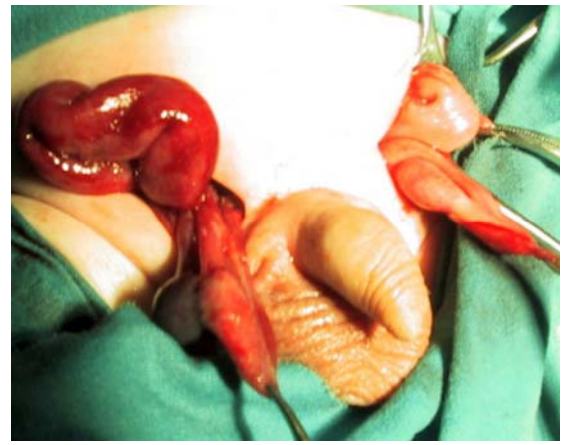

Figure 3: Intestinal vitality is shown to return after immediate reduction of strangulated loops into the abdominal cavity. Incarceration was also present on the left side but the left inguinal testis was preserved.

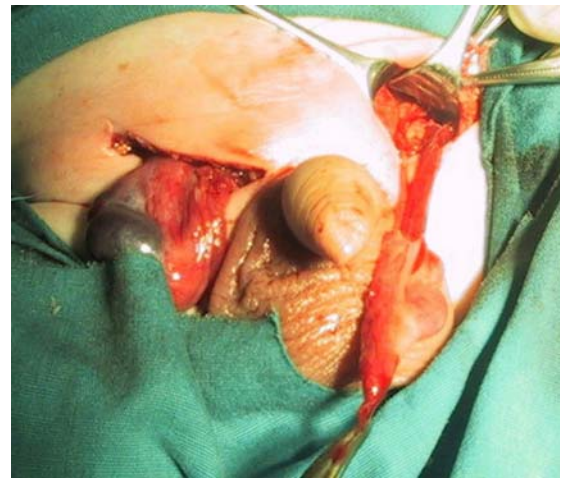

Figure 4: Left testicle is shown to be easily mobilized down to the left scrotal cavity which is facilitated by the inguinal anatomical advantage of the neonate

Gray-scale Ultrasonography (USG) is the standard imaging modality in acute scrotum. The diagnosis of inguinoscrotal hernia is achieved by visualization of one or more round structures containing air bubbles or fluid which occupy the scrotum and/or demonstration of intestinal peristalsis during the real-time examination[6]. Color or power Doppler imaging is routinely performed in the presence of inguinoscrotal hernia to investigate intestinal and testicular perfusion, however, this imaging had not been performed in our case[6]. Infarction of the testis without torsion of the spermatic cord has been reported in up to 15% of pediatric patients with incarcerated inguinal hernias, therefore, color Doppler imaging is an essential part of investigation[1].

In this case, bilateral synchronous incarcerated hernia was interestingly associated with bilateral undescended testes. This is an extremely rare form of presentation which reveals several important concerns. As described above, infarction of the testis is encountered in up to 15% of infants presenting with an incarcerated hernia, and this situation is possibly more frequent in cryptorchid testes due to easier compression in the inguinal canal as compared to scrotal cavity. In the present case, right testicular necrosis had already occurred at the time of surgery. However, left inguinal testicle was viable and dartos-pouch orchiopexy was performed without any consequence. It is to note that the relatively short distance from the external to the internal inguinal ring is an important anatomical aspect which facilitates orchiopexy during infancy[7].

KAYNAKLAR

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