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Neonatal Testicular Torsion (NTT) and Amyand's Hernia: A Strange Association: About a Case Report

Aiat Allah Skiredj[1*], Assia Mouad[1], Fadoua Boughaleb[1], Fouad Ettayebi[1], Houda Oubejja[2]

[1]Department of Pediatric Surgical Emergencies of University Children's Hospital of Rabat, Ibn Sina UHC/Mohammed V Medical Faculty, Rabat, Morocco
[2]Professor, Department of Pediatric Surgical Emergencies of University Children's Hospital of Rabat, Ibn Sina UHC/Mohammed V Medical Faculty, Rabat, Morocco

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***Corresponding author:** Aiat Allah Skiredj
Department of Pediatric Surgical Emergencies of University Children's Hospital of Rabat, Ibn Sina UHC/Mohammed V Medical Faculty, Rabat, Morocco

Abstract **Case Report**

Neonatal testicular torsion (NTT) was first described by Taylor et al. in 1897 [1]. It can be unilateral or less frequently, bilateral. It's a rare disease that occurs in neonate estimated at 1 in 7500 newborns [2]. Our case report is about a 9 days old male presented with a history of a swelling and irreducible inguinal hernia. Upon admission an ultrasonography was done and reported a right inguinoscrotal hernia. Surgical exploration was performed and the exploration found an extravaginally testicular torsion with a necrotic testicular associated with an inguinal hernia sac. Inside the sac we found a vermiform appendix non perforated known as amyand's hernia.

Keywords: Neonatal, Torsion, Testicular, Hernia, Emergency.

INTRODUCTION

Spermatic cordon torsion in perinatal period presented differently than torsion in any period of life. This entity poses a problem of differential diagnosis between inguino scrotal hernia, epididymo-orchitis, hydrocele of the spermatic cord, or testicular tumors [3, 4].

NTT is defined as a torsion that occurs within the first thirty days of life which can occur in the prenatal period, or within 30 days of postnatal life.

The association of both spermatic cordon torsion and Amyand's hernia is rare and never been described before. Term Amyand's hernia has been described for the first time by Claudis Amyand in 1736 and it use to be an appendix inside the hernia sac whether the vermiform appendix is normal, inflamed or perforated or not [5].

CASE REPORT

7 days old male born via vaginal delivery at home (no follow up and checks up pregnancy) with an inguina-scrotal swelling discovered by his mother at 5 days of birth. General examination on admission found a letargic new born, who wasn't febrile with vomiting but not suffering from bowel habit disorders. Local examination showed an irreducible, rigid, and large inguinal scrotal hernia with a swelling scrotum and oedematous and infiltred skin. Palpation found a hard lump in the scrotum.

Inflammatory markers, C-reactive protein, and leukocytosis, where elevated. Abdominal X-rays revealed no pathological elements (no signs of occlusion). Ultrasonography was done and reported a hernia sac with intestinal content surrounded by an unclear fluid collection and gas detected around the right testis, spermatic cord was tumefied however, blood flow to the right testis could not be verified by the physician.

We decided to perform a surgical exploration. At the exploration we found an oedematous and inflammatory fibrous tissue. The exposition of the spermatic cord fascia shows pus which was drained and we found a twisted tunica vaginalis with a necrotic testis. Dissection of the hernia sac found a digestive vermicular structure inside it corresponding to an appendix which seems to be normal. An appendectomy was performed, and the caecum was redelivered into the

abdomen via the hernia sac, which have been repaired. An orchidectomy was performed and drainage of the abcess was done. No orchiopexy in the left side was done. Post-operative follow up was satisfactory. There wasn't any complication.

Fig-1: Exposition of the spermatic cord fascia shows pus

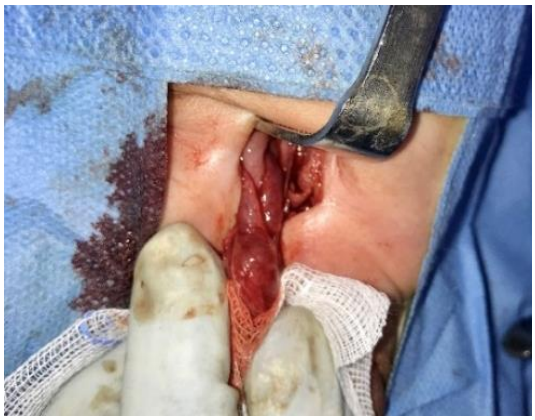

Fig-2: The twisted tunica vaginalis

Fig-3: A digestive vermicular structure inside the hernia sac corresponding to an appendix

DISCUSSION

Neonatal scrotal swelling has several causes, including: epididymitis, appendicitis, hydrocele, and neonatal Testicular Torsion (NTT).

NTT is defined as a torsion that occurs within the first thirty days of life (in the prenatal period, or within 30 days of postnatal life). Torsion can be extravaginal or intravaginal. When the testis, epididymis, and tunica vaginalis twist on the spermatic cord it is an extravaginal torsion, which is most commonly seen in neonates [6].

In our case it was an extravaginal torsion. Most of the cases happen before birth and only about 20% occur following delivery [7].

In our case the patient has a testicular torsion and was misdiagnosed with inguinoscrotal hernia. The association between testicular torsion and Amyand hernia never been described before.

The incidence of Amyand's hernia is between 0.4% and 0.6% [3, 4]. The association of appendicitis is very rare and reported to be 0.1% [3]. In paediatrics, the incidence is about 3 times more common [5].

Some authors consider that the amyand hernia is it an accidental finding; for others, a decrease in vascularization during incarceration and the maneuver to reduce the hernia result in inflammation of the appendix [5]. In our case the when diagnosis of hernia was made, a reduction was tented without any result.

It has been noted that both CT scans and ultrasonography can be helpful in providing a preoperative diagnosis [9, 10] in our case the US was incomplete. The classical treatment of Amyand's hernia includes appendectomy and hernioplasty via the same incision; however, the need for prophylactic appendectomy during repair of Amyand's hernia is subject to debate [1]. In our case we have done an appendicectomy and an orchidectomy with drainage of the abcess.

Since the first report by Waldbaum and Green, many cases of infected hydroceles in neonates have been described in the literature. An infected hydrocele in a neonate may be confused with testicular torsion, incarcerated inguinal hernia or epididymoorchitis [10, 11].

Removal of the affected testicle may not the best practice because there is some evidence that shows the testicle may maintain his endocrine function evenwhen the spermatogenic function has been affected [4, 11]. But in other studies, we found that leaving the necrotic testicule may cause infection, and be a source of malignancy later, or become a source for testicular tissue antibodies; so, it is often recommended that the nonviable torsed testicle should be removed [4, 12, 13] in our case an orchidectomy was done because of the necrosis in the abcess which were already there.

Some studies found that synchronous torsion is much more common and a metanalysis in the management of neonatal testicular torsion conclude that

this fact may push to do an orchiopexy of the unaffected testicle in order to prevent an anorchia. In our case no orchiopexy have been done.

There is a case report by Omran *et al*., discribing a scrotal pyocele, associated with perforated vermiform appendix and complicated by testicular ischemia in neonate but in this case the hernia causes the ischemia of the testis [14].

Our case is the first reported case describing testicular torsion with pyocele and Amyand's hernia as an associated entity.

Perinatal torsion has been subdivided into prenatal and postnatal (event occurring from birth to 1 month of life) torsion. Management of prenatal neonatal testicular torsion has a lack of consensus in terms of surgical timing and need for contralateral fixation [15].

In our case the torsion was prenatal. In the other side Amyand's hernia may remain asymptomatic during life as proved by incidental diagnosis in a cadaveric specimen. In view of this clinical presentation, almost all cases of Amyand's hernias are diagnosed intra-operatively.

CONCLUSION

TTP is a rare pathology, occurring antenatally and in the first month of life, which can be uni- or bilateral. Its etiopathogenesis is still poorly understood, the extravaginal form is the most frequent, the clinical and radiological aspects being specific. Surgical exploration is the essential tool for making the diagnosis. The therapeutic attitude is very controversial.

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