

Neonatal acute scrotum: do not forget Amyand hernia

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A 15-day-old full-term newborn was admitted to the emergency department for right scrotal swelling, irritability and poor feeding that started 12 hours earlier, without fever or vomiting. Parents reported that his last defecation occurred 3 days before admission. Physical examination was remarkable for a swollen, erythematous and tender right hemiscrotum (figure 1).

Scrotal ultrasonography showed an inguinal hernia with an air-filled tubular structure that seemed somehow different from a typical intestinal loop; the plain radiography confirmed this finding.

Emergency surgical exploration of the right groin and scrotum revealed an external right inguinal hernia with an inflamed vermiform appendix in the herniary sac (figure 2), leading to the diagnosis of Amyand hernia with an inflamed appendix.

Amyand hernia consists of the presence of the vermiform appendix in an inguinal



Figure 1 Erythema and swelling of the right hemiscrotum.

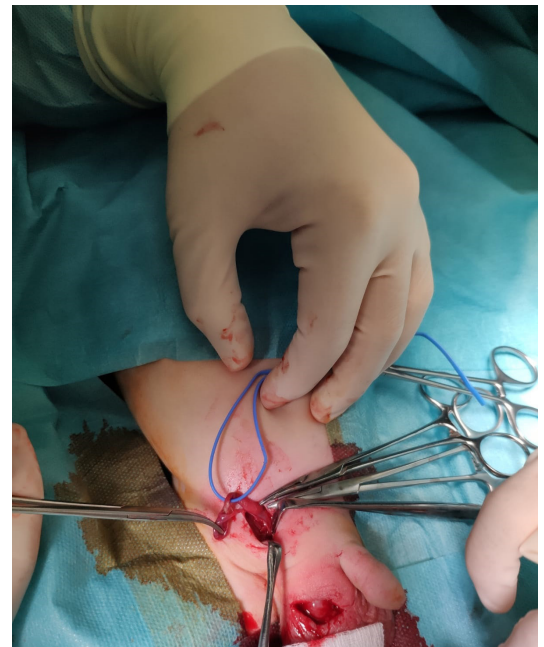


Figure 2 Intraoperative finding of acute appendicitis into the right groin. The right testicle appeared macroscopically normal.

herniary sac and is an unusual finding in both children and adults (1% of all hernia cases in adults). In contrast, the inguinal hernia is a common congenital anomaly, with an incidence ranging from 0.8% to 5% in full term, up to 30% in premature and low birthweight newborns. Newborns have a 3%–16% risk of incarceration, which rises up to 31% in preterm infants.¹

Amyand hernia with appendicitis is a sporadic event (0.1%), and it is possibly due to the incarceration of the appendix into the herniary sac.^{2–4} Although rare, it should be considered in newborns with incarcerated hernia since early perforation and peritonitis are quite frequent in neonatal appendicitis. Therefore, a delayed diagnosis can be life threatening.⁵

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REFERENCES

- 1 Marzuillo P, Germani C, Krauss BS, *et al*. Appendicitis in children less than five years old: a challenge for the general practitioner. *World J Clin Pediatr* 2015;4:19–24.
- 2 Erginel B, Soysal FG, Celik A, *et al*. Neonatal perforated appendicitis in incarcerated inguinal hernia in the differential diagnosis of testis torsion. *Pediatr Int* 2017;59:831–2.
- 3 Yodoshi T, Hurt TL. Gas in the right hemiscrotum? Amyand's hernia in a neonate. *BMJ Case Rep* 2018;2018:1–2.
- 4 Guida E, Pederiva F, Codrich D, *et al*. Vermiform appendix inside the sac: uncommon case of inguinal hernia. *Indian J Pediatr* 2014;81:523.
- 5 Abdulhai SA, Glenn IC, Ponsky TA. Incarcerated pediatric hernias. *Surg Clin North Am* 2017;97:129–45.