Neonatal epididymo-orchitis caused by Pseudomonas aeruginosa: a case report

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Abstract
Epididymitis and epididymo-orchitis are uncommon causes of acute testicular pain in newborn boys, epididymo-orchitis is infection or inflammation of epididymis and testis it’s may be associated with urinary tract infections or reflux of urine predisposed by an underlying vasal anomaly. Pediatricians should examine the testicles meticulously after a baby is born.

We report a 7 day-old boy with urinary malformations (ureteral duplication, ureterocel and right hydro-ureteronephrosis) who presented with acute scrotum. The ultrasonography exploration of the testis showed findings consistent with epididymo-orchitis, confirmed by the needle scrotal aspiration of the pus. Further radiological investigations of urinary tract showed the multiples malformations. Epididymo-orchitis should be suspected initially with abnormal physical signs and laboratory findings. Prompt prescription of antibiotics is mandatory, and appropriate therapeutic measures (antibiotics) should be undertaken to prevent recurrences and sequelae.

Introduction
Neonatal testicular torsion and epididymo-orchitis are confusing and very difficult for medical doctors to diagnostic. Scrotal swelling in newborn is not rare and more diagnosis must be distinguished like: hydrocele, testicular torsion, orchitis, orchi-epididymitis, inguinal hernia, scrotal hematoma and tumors. The emergency cause is testicular torsion that requires surgical intervention but epididymo-orchitis is treated medically.

Case presentation
A newborn Moroccan male was admitted in the intensive care unit at 2 hours with neonatal asphyxia signs. The infectious laboratory exams were normal. He was intubated with good evolution. At 7 days the patient was presented the signs of infection: was tachycardic, his body temperature was 38.5°C. The clinical examination revealed a swollen testis, pain and fever, but these signs are not specific for EO [1,2]. The Color Doppler ultrasonography of the scrotum is capable to confirm the diagnosis and eliminated the testicular torsion. The Color Doppler ultrasonography of the scrotum is capable to confirm the diagnosis and eliminated the testicular torsion. In EO, Doppler ultrasonography

The color Doppler echography of testicular revealed increased vascular flow and heterogeneous aspects of the testis and epididymis with scrotal infusion. The needle puncture aspirated the pus and the culture finds pseudomonas aeruginosa.

The abdominal ultrasonography revealed a left hydro-ureteronephrosis with ureteral duplication and ureterocel. This malformative association was confirmed by abdominal magnetic resonance imaging (MRI) with Gadolium contrast (Figure 2).

The antibiotics were started with the imepinime 30 mg/kg/j for 10 days and Amikacine 15 mg/kg/j for 3 days. The evolution was good and ultrasonographic control of the testis was normal.

Discussion
Epididymo-orchitis (EO) is a rare affection in the neonatal period. It’s should be distinguished from testicular torsion to avoid unnecessary surgical exploration. Testicular torsion requires surgical intervention, but EO is managed medically [1].

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objective the increased vascular flow and the inhomoge-
neous echogenicity of the epididymis and the testis [3].

Retrograde passage of sterile or infected urine along
the patent vas deferens is the most frequent cause of
EO. Bloodstream infection is also reported [2,4]. EO is
usually occurred in patient with predisposing anatomical
abnormality. And All patients with EO should have an
ultrasound examination of the abdominal and pelvic in
order to determinate the anatomical abnormality of the
urinary tract, such as an ectopic uretere, ureteral duplica-
tion or others malformations [2].

During the neonatal period, pseudomonas aeruginosa
is responsible for nosocomial infection and it’s difficult
to treat. The acute epididymo-orchitis caused by pseudo-
monas aeruginosa is unusual and the clinical manifes-
tations are similar to those caused by other micro
organisms. Escherichia coli is an important gram-nega-
tive bacteria causing diverse neonatal infections and is
also the common bacteria causing epididymo-orchitis
from an ascending route. In our case it is the pseudo-
monas which is accused because it was about a nosoco-
miale infection. The choice of the imepineme is
motivated by the bacterial ecology of service constituted
by pseudomonas resisting to C3G, sensitive to the imipi-
nème. Fact confirmed in the antibiogram.

Epididymo-orchitis is a rare affection in the neonatal
period. After eliminate the torsion of the testicle, when
EO is suspected, laboratory exams must done (urine
exam, blood culture, and culture of the pus, and prompt
antibiotics is prescribed to avoid serious sequelae.

Consent
Written informed consent was obtained from the
patient’s parents for publication of this case report and
accompanying images. A copy of the written consent is
available for review by the Editor-in-Chief of this
journal.

Abbreviations
EO: Epididymo-orchitis.

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Authors’ contributions
AB was major contributor in writing the manuscript and interpreted the
data regarding the treatment and outcomes. NA, RD gathered and analysed
the data regarding the radiological imaging. HEJ was also a major
contributor in writing the manuscript. NLB was the neonatologist consultant
in charge of the patient and provided the intellectual basis for the report; in
addition, she was a major contributor to the discussion. All authors read and
approved the final manuscript.

Competing interests
The authors declare that they have no competing interests.
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