Perinatal Testicular Torsion

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Intrauterine and postnatal testicular torsion are rare but important conditions for family physicians to recognize. Careful examination of the newborn's scrotum may reveal this condition. Reported here is a case of testicular torsion, followed by a brief discussion of the current literature and management strategies.

Case Report

A 19-year-old mother of 2 gave birth to a 3892-g (8 lb, 11 oz) son. The pregnancy of 41 weeks and vaginal delivery were uncomplicated. The baby's Apgar scores were 9 and 10 at 1 and 5 minutes, respectively. On initial examination in the newborn nursery, the infant's scrotum was noted to be purple, indurated, and enlarged to 3 cm on the left side. The skin covering the left side of the scrotum was thickened and ecchymotic, and no testis could be recognized. A large hydrocele was noted on the right, but there were no inguinal hernias or other abnormalities. Bilateral fluid collections found later that day on ultrasonic examination suggested hydroceles, but no solid mass was seen on the left. The left side of the scrotum transilluminated poorly, while the right side transilluminated well. The following morning the left scrotal mass persisted, and needle aspiration of the mass yielded 3-mL dark reddish-black, serosanguinous fluid. No malignant cells were noted in the aspirated fluid. A urologist consulted at that time diagnosed testicular torsion. The infant's white cell count was 31×10^9/L (31,000 mm^{-3}), and daily injections of 125-mg intramuscular ceftriaxone were ordered.

The infant was taken to surgery the following morning, and a left inguinal incision showed extravaginal torsion of the spermatic cord. The spermatic cord was clamped because of the possibility of malignancy. A large hematocele and a necrotic left testicle were found, and the left testis was removed. Examination of the testis in the pathology laboratory revealed testicular gangrene. An incision into the right side of the scrotum was done for removal of the hydrocele and fixation of the right testicle. The patient had an uneventful postoperative course.

Discussion

The term *neonatal torsion* was first used by Taylor in 1897.[1] This term has been used to describe prenatal and postnatal testicular torsion in infants up to 30 days of age. The term *perinatal torsion* is now recommended as a better description of both prenatal and postnatal testicular torsions.

Perinatal testicular torsion is relatively rare, and the incidence of this condition is not known. Although increased physician recognition has improved reporting, we found only 83 cases, involving 98 testes, in a recent review of the literature.[2] Researchers reporting on a recent survey of pediatric urologists found that the number of neonatal torsions encountered by individual subspecialists varied from 2 to 30.[2] The spermatic cord torsion was located extravaginally or supravaginally (outside of the tunica vaginalis) in 92 percent of cases. Unusual mobility of the testes may predispose them to ischemic rotation and extravaginal torsion.[3] In a compiled review, 15 patients had bilateral torsion, of which three had an asynchronous presentation.[4] The right and left sides appear to be equally involved.[2]

Perinatal testicular torsion does not seem to be related to prematurity, low birth weight, or route of delivery.[5] The patient with torsion usually has an edematous, dusky scrotum at birth or a nontransilluminating scrotal mass. Neonates generally are asymptomatic.

The differential diagnosis includes hydrocele, hematocele, inguinal hernia with or without incarceration, idiopathic testicular infarction, torsion of the appendix testes, epididymo-orchitis, meconium peritonitis, or testicular tumor. Ultrasonography can be used to exclude a rare, solid scrotal tumor. Perinatal torsion is believed to be more common in newborns than are intrascrotal neoplasms (mainly yolk sac tumors or

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juvenile granulosa cell tumors), the incidence of which is probably less than 1 in 100,000 live births.

Although the cause of perinatal torsion is open to speculation, a frequently suggested explanation is the spastic contraction of the cremaster muscle.[6] If the testicular coverings have not firmly fixed the testicle to the scrotal wall, the cremasteric contraction can twist the testicle on the spermatic cord.

Seventy-six percent of surveyed pediatric urologists recently stated that they would attach the contralateral testis to the scrotum.[2] The occasional asynchronous appearance of bilateral torsion would seem to mandate contralateral orchiopexy when the condition presents unilaterally.[3] Survey respondents reported that 80 to 100 percent of involved testes at birth were nonviable at the time of exploration.[2] Some authors, therefore, would recommend elective orchiectomy in the first few days of life.[2] Others suggest that the condition, even if found at birth, should be considered a surgical emergency in an attempt to preserve function.[5] Either way, surgery is recommended to explore the scrotum. Leaving a nonviable testis in the scrotum could cause autoantibodies to form that would affect the fertility of the remaining viable testis. Certainly, all postnatal torsions should be considered surgical emergencies. Inguinal incision for exploration of the involved side was preferred by two-thirds of surveyed urologists because of the supravaginal location of the torsion and the remote possibility of cancer.

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