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A boy with undescended testes

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QUESTION: A 3-year-old boy is seen in a medical student-run clinic at a transitional housing village for homeless families. He is brought in by his mother for a routine well-child visit. The child is reported to be healthy, and his immunization status is up to date.

The child is playful and cooperative during the examination. His weight and height are normal for his age. Auscultation of his heart and lungs elicits no abnormalities. Examination of the genitalia reveals a circumcised penis and scrotum without palpable testes.

What would you do now?

ANSWER: Attempt to palpate the testes in both inguinal canals. A sweep of the inguinal regions reveals both testes elevated.

When the examiner manipulates the left testis into the scrotum, it immediately ascends to its original position upon release.

Figure 1 Left testicle manipulated into the scrotum

The right testis cannot be manipulated downward and stays fixed in the inguinal region.

Figure 2 Right testicle cannot be manipulated into the scrotum

QUESTION: What is the diagnosis for these findings, for what conditions is the boy at increased risk, and what is the appropriate treatment, if any?

ANSWER: The boy has an undescended right testis and an ectopic left testis. He is at increased risk for testicular cancer, future infertility, and possibly testicular torsion and inguinal herniation.[1] Hormonal or surgical intervention, or orchiopexy, is indicated.[1]

PREVALENCE AND DIAGNOSIS

Three percent to 5% of male infants and a third of premature male newborns are affected by cryptorchidism, or an undescended testicle.[1] By 3 months of age, the prevalence is only 0.8%, but spontaneous correction after this age is unlikely.[2] In about 20% of infants with cryptorchidism, at least 1 testis is nonpalpable. Fifty percent of these are intra-abdominal, and the others are "vanished" or atrophic. In the other 80% of patients, palpable undescended testicles are typically stuck in the inguinal canal.[1] Such testicles cannot be manipulated into the scrotum on physical examination.

On the other hand, an ectopic testis in the inguinal region is one that lies outside the normal embryonic path of descent. It can be manipulated into the scrotum but immediately ascends upon release. A retractile testis in the inguinal canal is benign. After manipulation into the scrotum, it will ascend only on the next cremasteric reflex.

TREATMENT

Treatment of cryptorchidism is necessary to reduce the risk of future infertility, inguinal herniation, and testicular torsion. The risk of future testicular cancer is 1 in 1,000 to 2,500 compared with 1 in 100,000 for the general male population.[1] Contrary to belief, treatment does not reduce the risk of cancer.[3] However, treatment is still indicated to allow easier detection of cancer through testicular self-examination or examination by a medical professional. Hormonal treatment consists of human chorionic gonadotropin given intramuscularly twice a week for 4 weeks for patients without ectopic testes. If the testis fails to descend with this treatment, an inguinal orchiopexy may be done to surgically replace the testes in the scrotum and fix them in their new positions. It is done through an inguinal approach and has a 92% success rate.[4] After surgery, the child must refrain from straddling toys for 2 weeks.[1] Occasional complications include testicular atrophy.[1]

OUTCOME

The findings of the examination were discussed with the mother, and the child was referred to a pediatric urologist for evaluation and consideration of orchipexy. In theory, ectopic and undescended testes should be detected before age 3. It is fortunate that the medical student examining this child did a complete and accurate examination—hopefully in time to preserve fertility and avoid related medical abnormalities in the future.

References

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