

Hypospadias: Reimagining Male Reproductive Health

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ABSTRACT

Hypospadias is the congenital defect common in male reproductive system in which the opening of urethra is located on the underside of penis instead of the tip. This condition is purely congenital. Chordee is the common symptom of this disease and the penis look hooded. Animals are constantly attacked by urinary tract infections. In some animals the clinical signs remain asymptomatic. This condition is common in males instead of females. Surgical intervention is the only treatment of this disease. Antibiotics can be given to avoid secondary infection after surgery. In this article we will go through a brief introduction, anatomy, causes and treatment for hypospadias.

Introduction

Hypospadias is a common male reproductive system anomaly which is inherited from the parents to offspring [1]. It mainly affects the penis of infected animal. Urethra normally opens at the tip of penis in male organisms that transfers urine from the bladder. But in individual having hypospadias, urethra is not present at its normal location. It may be present under the penis, back to the shaft, or maybe much closer to the scrotum. Incidence of this disorder is about 1:200/300 live births [2]. Hypospadias occurs when the urethral tube misses the mark to completely close during the early stages of the fetal development. This urethral tube was responsible for the formation of urethra but fails to do so. The condition is purely a genetic problem involving some of the environmental factors as well. But the exact cause is still not known. Severity of this condition varies from mild to severe cases. Urethra is just slightly misplaced from the penis and can be corrected easily in mild cases. But in the severe cases, it may be located near the perineum or scrotum and may have some difficulty in the treatment process. Hypospadias may also be related to chordee, which is known as the bending of penis. Chordee can be the cause of difficulty in sexual process and urination. The condition is easily diagnosed during the physical examination just after the birth of the animal. Treatment involves surgical procedures for the correction of the location of urethra at the tip of penis. Specific techniques depend on the location and severity. In most of the cases surgical approach has been proved successful, but in some cases complications may also occur. These complications involve abnormal openings (fistulas), narrowing of urethra (urethral strictures) and maybe some cosmetic problems. Overall, hypospadias is a relatively common congenital condition that affects the male urinary system. With appropriate medical care and surgical intervention, most individuals with hypospadias can lead normal, healthy lives [3].

Anatomy

Penile anatomy in hypospadias cases is just similar to that of the normal penis, but the ventral aspect where the foreskin is aborted, urethra arrested and the urethral spongiosum is scarce. Nerves in both normal anatomy and in the case of hypospadias are similar [4]. In the case of hypospadias urethra, which works as a carrier of urine from the bladder to the outside of the body, is not present at its normal position on the penis. Opening of urethra goes somewhere on the ventral side of the penis or may be anywhere near the scrotum [5]. Due to the atypical location of the urethra, there might be any defect in the glans of the penis (rounded part of penis). Glans may have a shaft in it or maybe malformed. An abnormal furrow or groove may be present in the shaft region of the penis, which also leads to the dislocation of the urethra. Penis become abnormal, which causes the frenulum to become shorter or out-of-place. In hypospadias, testicles remain unaffected most of the time, but the position of scrotum may vary from animal to animal. The color of the fetal penis become brown [6].

Roots of hypospadias

There are many factors which are involved in causing this disorder, mainly the genetic factor. Specific mechanism of role of genes in hypospadias is still not known. But some genes have been recognized which are playing their role in causing this disorder. It has been seen that inherits in the family. One of the other major factors is hormonal

imbalance. During the fetal development of different organs, there might be some hormonal imbalance which leads to abnormal formation of the urethra [7]. Androgens are the hormones which are responsible for the formation of the male genitalia. Any changing in androgen levels may lead to hypospadias. Some maternal factors may also be the cause which include exposure to certain drugs, maternal age, hormonal medications, exposure to chemical which disrupts the endocrine and maybe some pesticides. Environmental factor also plays its part.

Treatment

Treatment for hypospadias is mainly surgical approach. Surgery is preferably performed during the age of 6 to 18 months [8]. But timing for treatment depends on severity of the problem. The procedure involves repositioning of the urethra at the tip of the penis which is its normal location. In some cases, the foreskin should be reconstructed. Appearance of penis is improved by using tissue grafts or flaps. After the surgical procedure patient needs some additional care. Post operative care includes regular cleaning of the surgical site and applying some antibiotics ointment. These antibiotic ointments aid the healing process and avoid secondary bacterial infections.

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