Hypospadias

BIRTH DEFECT RESEARCH FOR CHILDREN

What is Hypospadias?

Hypospadias is a congenital abnormality of the penis in which the urinary tract opening is not at the tip. In a normal penis, the urine tube (urethra) travels through the shaft of the penis to an opening located in the center of the head of the penis (glans). In boys with Hypospadias, the urine tube is short and does not come out to the end of the penis. Fortunately, 90% of Hypospadias cases are minor with the urethral opening on or just below the head of the penis.

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The different degrees of Hypospadias are named according to their location. In mild forms, Coronal Hypospadias, the urethra is located just under the corona glandis. Occasionally, the urethra develops only to the junction of the penis and scrotum; this is known as Peno-Scrotal Hypospadias. This condition is called Chordee and may be associated with bending of the penis on erection.

Forms of Hypospadias in which the urethral opening is located on the penile shaft or in the perineum may interfere with normal urination and fertility.

Testicles are undescended in 10% of boys with Hypospadias.

How often does Hypospadias occur?

Hypospadius is a relatively common condition, historically occurring in about 1 per 300 to 500 live male births. Over the last 25 years, however, the incidence and severity of Hypospadias has reportedly doubled in the United States and Europe. Overall, the incidence is now believed to be about 1 in 100 male babies.

What causes Hypospadias?

In the developing embryo, the penis begins to form around the fifth fetal week. The urethral folds start to unite over the urethral groove and by the fourteenth week the process is complete. If the testes fail to produce adequate amounts of testosterone, the development of the penis and scrotum will not be complete and Hypospadias may result.

Although the exact cause of Hypospadias is not known, some recent studies indicate that the following exposures have been associated with increases in Hypospadias:

- Prenatal estrogen exposure
- Dietary exposure to excessive amounts of natural plant phytoestrogens
- Exposure of parent(s) to certain chemicals, such as those used in farming and gardening, which have estrogenic properties and other hormone disrupting effects. For example, studies have demonstrated increased risk of urogenital malformations in the sons of pesticide appliers.

What are the chances of recurrence within families?

Hypospadias can be familial, although the exact mechanism by which it is inherited is not known. Eight percent of the fathers of boys with Hypospadias have Hypospadias themselves. If two males in a family have Hypospadias, the chance of recurrence in another pregnancy is just over twenty percent.

How is the diagnosis of Hypospadias made?

Hypospadias is usually obvious at birth. At times, Hypospadias can be diagnosed from a prenatal ultrasound examination. The first clue to the problem is often the abnormal foreskin. In some cases, however, the foreskin is completely normal and the diagnosis is not made until the foreskin is retracted or until a circumcision is performed. Routine newborn circumcision should be avoided in cases of Hypospadias, as the foreskin is often essential for repair.

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When should Hypospadias be treated?

Not every child with Hypospadias requires surgery, but in most cases certain functions may not be possible unless the problem is corrected. The opening of the penis must be far enough on the shaft for a man to be able to stand to urinate and to ensure that sexual intercourse and insemination are possible. The penis must also be cosmetically acceptable.

The ideal age for repair is usually before the age of eighteen months.

What treatment is available for Hypospadias?

Mild to moderate degrees of Hypospadias with minimal Chordee may be corrected by simple outpatient procedures.

Moderate Hypospadias with some Chordee may require a more extensive operation that utilizes a tubularized flap of penile shaft skin. Chordee is evaluated with an artificial erection. To protect the newly constructed urethra, the urine is usually diverted with a stent (tube). Patients may be sent home after surgery, but occasionally are hospitalized for a day or two. A tube may be left in the repair for 1 to 10 days.

More serious cases of Hypospadias may require more extensive surgery that uses the foreskin to resurface the penis.

What is in the future for a boy with Hypospadias?

Results of Hypospadias surgery are good. Overall, greater than 90% of boys with Hypospadias will have the condition corrected in a single operation.

Fact Sheet by:

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