Urachal Cyst and Sinus

Patient and family information, brought to you by the Education Committee of APSA

Overview - "What is it?"

The urachus is a structure present during the development of the baby inside the mother. It connects the top of the bladder to the belly button. Normally, the urachus closes down toward the end of pregnancy. If the urachus fails to dissolve completely or partially, a urachal cyst (fluid-filled bubble) or sinus can remain and cause symptoms.

The incidence of urachal remnants is about 1.03% of the population.

Signs and Symptoms - "What symptoms will my child have?"

The average age of presentation is four years but can range from infancy to adolescence.

Early signs: A sinus can drain urine through the umbilicus without signs of infection. Belly button is noted to be wet constantly, with yellow fluid emanating from the skin fold. There may be a small red opening at the base of the umbilicus.

Later signs/symptoms: The cyst can become infected, in which case the child has fever, lower abdominal pain, and fullness in the midline in the area below the belly button. As the infection in the urachal cyst progresses, redness may spread over the lower belly.

Diagnosis - "What tests are done to find out what my child has?"

History and Physical exam: the pediatric surgeon will be suspicious of the diagnosis after taking a history and performing a physical exam.

Ultrasound: is used to look at the urachus. Sound waves are used to image the urachus or its remnants. Ultrasound is accurate for diagnosis in over 90% of cases.

Cystogram: uses a catheter to instill dye into the bladder to see if a urachus is present.

Computer tomography (CT scan): or magnetic resonance imaging (MRI) may be obtained depending on the clinical situation.

Lab Tests: the physician may order blood tests to look for signs of infection and a urine test to look for bacterial infection.

Treatment - "What will be done to make my child better?"

Medicine: If the urachal remnant comes into attention because of infection, antibiotics (medications to treat infection) are given to the child. Antibiotics may be given by mouth or, if the infection is severe, through the vein.

Surgery: A urachal sinus that is draining is removed using a small incision on the underside of the belly button. The sinus is dissected all the way to the top of the bladder and removed there. An alternative approach is to use laparoscopy, where small incisions are used on the abdomen. Through one of these incisions, a video camera is placed. Small instruments are inserted to remove the urachus.

If an infected urachal cyst does not respond to antibiotics, the pus is usually drained under general anesthesia. Once the infection has resolved, the child may return for a definitive excision of the cyst in about 4-6 weeks. Again, either open or laparoscopic techniques can be used to remove the cyst. Many times, the cyst will go away following the infection. This is particularly true in young infants. However, at a minimum, ultrasounds should be done after the infection to ensure it goes away.

Asymptomatic urachal cysts found on imaging for other reasons are usually left along in infants, as many times these will go away in the first year of life. However, they should be followed by ultrasound. If they persist, then surgery may be needed to remove them.

Preoperative preparation: Nothing to eat or drink for eight hours prior to surgery. If the operation is a scheduled (not emergency), a bath or shower the night prior or the morning of the procedure is recommended.

Postoperative care: Oral or intravenous pain medication may be needed. The child can play and get up after surgery.

Risks of surgery: General risks of surgery include anesthesia, bleeding, wound infection

Benefits: If the urachal remnant is eventually excised, it removes the risk of infection in the future. There is some thought that urachal remnants may be a site for future cancer, but this is really rare.

Home Care - "What do I need to do once my child goes home?"

Most patients may be sent home the day of surgery.

Diet: A general diet is recommended.

Activity: The child can be active and play normally. Normal activity will not harm the surgical site. The surgeon will give instructions for bathing. Usually the wounds are kept dry for about three days, then may shower thereafter. No bathing or swimming (activities that would soak the wound) until seven days after surgery.

Wound care: The surgeon will give instructions. Depending on if a portion of the bladder is removed, a urinary catheter may be left in place for several days.

Medicines: Usually only oral acetaminophen (Tylenol®) or ibuprofen (Motrin® or Advil®) is prescribed for pain. Sometimes, narcotic pain medication is necessary. If your child is taking narcotics, he or she should take stool softeners to prevent constipation. If antibiotics are prescribed after incision and drainage of an infected urachal cyst, be sure to take all the prescribed pills.

What to call the doctor for: Any sign of drainage, spreading redness at the surgical site

Follow-up care: Usually your surgeon will have you make an office appointment for 2-4 weeks after surgery.

Long Term Outcomes - "Are there future conditions to worry about?"

Once a urachal cyst or sinus is excised and the surgical site has healed, the problem is completely resolved. It is rare to have any long-term issues.

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