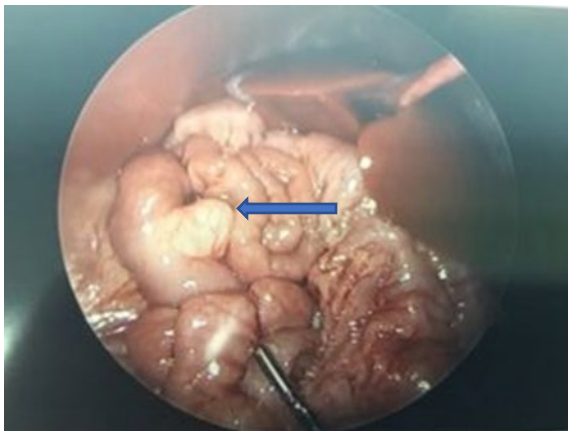
Duplication Cysts

(intestinal duplication, enteric duplication, alimentary tract duplication)

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

Overview - "What is it?"

Duplication cysts are abnormal "extra" portions of the intestine that can occur anywhere in the intestinal tract from the esophagus to the rectum. They are called "duplications" because they are attached to the normal intestinal tract and shares its blood supply. These structures can either drain into the normal intestinal tract or not connect at all.



The white mass (arrow) is a duplication cyst as it appears in an operation.
Picture courtesy of MJArca 11/2016.

Epidemiology:

- Children are born with duplication cysts but symptoms usually happen before age two.
- Occurs in about 1 in 4,500 live births.
- Most commonly occurs the small intestine (ileum and jejunum)
- May have multiple duplications in 10-15% of cases.
- May be associated with other anomalies in the spine or genitals and urinary tract

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

The symptoms depend on the size, location and inside lining of the mass. Cysts lined with stomach tissue can cause bleeding because of the acid produced.

Other symptoms of this condition include abdominal mass, swelling of the belly, nausea, vomiting, or blood in the stool.

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

If the duplication cyst is located in the chest (esophageal duplication), a **chest X-ray** may show a mass in the posterior chest.

Contrast studies (a radiology study where contrast is swallowed and its passage followed through the intestinal tract with several X-rays) can show a mass or cyst that narrows the bowel.

Ultrasound, CT or MRI scans will show a mass (tubular or spherical shape) that appears to be filled with fluid and attached to the adjacent bowel. However, the findings can sometimes be nonspecific.

If there is a history of blood in the stool, a **technetium scan** (radioactive tracer that is given to the child through an IV line) can detect a duplication cyst if the inside lining contains gastric tissue.

Conditions that mimic this condition: Meckel's diverticulum, other masses in the abdomen

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

Medicine: No medication can make this situation better.

Preoperative care: Antibiotics (medicine that fights infection) will be given prior to the start of the operation to decrease infection risk.

Surgery: is needed because duplications can cause intestinal blockage, intestinal twisting (volvulus) and bleeding. General anesthesia is required for the operation. The type of surgery and approach depends on the location and size of the duplication.

- If the duplication involves the mouth or throat region, the operation will be performed through the mouth or through a neck incision.
- Duplication cysts of the esophagus will require operation through the chest. Duplications found in the abdomen are removed by approaching the belly.
- Minimally invasive ("thoracoscopy" for chest; "laparoscopy" for abdomen) or open techniques may be used.

- Minimally invasive is an approach where multiple small cuts are made on the belly to insert a telescope and small instruments.

Open technique is an approach where a larger cut is made on the belly to complete the surgery. It is either done up and down (vertical) or side to side (horizontal). In the chest, the cut is made in between the ribs.

Risks of surgery are low but include bleeding, infection, intestinal blockage (from scar tissue of the operation), leakage from the bowel (if a portion of the normal bowel is removed) and risks of anesthesia.

Benefit of surgery from surgery: Removal of the cyst decreases the chances of bleeding, twisting and intestinal obstruction.

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

Diet: Normal for age.

Activity: Normal for age. Ask surgeon when "tummy time" can resume.

Wound care: Can wash incision with soap and water. May not be able to submerge under water for about a week after surgery. By the time the baby is discharged, it should be fine to resume baths.

Medicines: Nothing specific for surgery. Medicines for pain such as acetaminophen (Tylenol) or ibuprofen (Motrin or Advil) or something stronger like a narcotic may be needed to help with pain for a few days after surgery. Stool softeners and laxatives are needed to help regular stooling after surgery, especially if narcotics are still needed for pain. By the time the baby is discharged, pain medication may not be needed. Ask your doctor what the best medicine, if any, is needed for pain.

What to call the doctor for: Call your doctor for redness, warmth, or drainage from incision, vomiting, or fever. Increasing chest or abdominal pain that is not better after taking pain medications. Shortness of breath (for operations performed through the chest).

Follow-up care: Your child should follow up with his or her surgeon 2-3 weeks after surgery to ensure proper postoperative healing. Later follow up may be needed if vomiting is a problem.

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

Most children with duplication cysts who undergo surgery have no long-term complications. The intestine that is removed is usually short and has no effect on overall growth and nutrition.

Late bowel obstruction from adhesions (scar tissue) can be treated medically with a tube placed down the nose that sucks out the stomach (an NG tube) but may need surgery to divide scar tissue.

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