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Neck Masses: lymphatic malformations and lymphadenitis

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

Overview - “What is it?”

Lymphatic malformations (previously called cystic hygromas) are collections of fluid within abnormal lymphatic channels. They can occur anywhere in the neck, but more often are located on the side. Lymphatic malformations are often detected on prenatal ultrasound and are present at birth. They may be quite large and extend to surrounding areas.

Lymphadenitis refers to enlargement of lymph nodes. Lymph nodes are organs located throughout the body that help fight infection. Lymph nodes normally get bigger as a response to infection. Infection can be caused by bacteria and other microbes (atypical mycobacteria, cat scratch disease).

Signs and Symptoms - “What symptoms will my child have?”

Early signs/symptoms: Lymphatic malformations are often detected on prenatal ultrasound and are present at birth. These are soft lumps under the skin that may have the feel of fluid.

Lymph nodes that are enlarging as a response to infection may be tender or mildly painful. Usually they are flat, firm, and moveable bumps under the skin that have a smooth surface.

Later signs/symptoms: Lymphatic malformations often grow in proportion with the child but can increase or decrease in size. Lymphatic malformations can also get infected or bleed into itself.

Lymph nodes may continue to get bigger as the infection gets worse. The nodes themselves may get infected—turn red and form pus.

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

Labs and tests: Most of these lesions are diagnosed on history and physical examination.

Bloodwork: No specific blood tests are needed for lymphatic malformation and lymphadenitis unless an infection is suspected. If the infection is bad enough, the cell count and cultures of the blood (to rule out spread of infection into the blood stream) may be ordered.

Depending on the level of suspicion for a lymph node being large enough to be considered cancer, more blood tests may be ordered.

Ultrasound is typically obtained and also diagnostic. For lymphatic malformations, an MRI is required to determine the extent of the lesion.

Conditions that mimic this condition include malformations of the blood vessels and inflammation of other congenital malformations of the neck (branchial cleft remnants). Other conditions that can cause lymph node enlargement include cancer. Torticollis (spasm of the neck muscle) can be mistaken for a neck mass.

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

Medicine: Lymphatic malformations in children may be treated medically. Medicines that have been shown to help shrink certain types of malformations include propranolol or sildenafil. Lymphatic malformations that become infected require antibiotics.

For both lymphatic malformations and lymph nodes that become infected, antibiotics are needed. This can be given by mouth or through the vein if the infection is bad enough.

Non-operative treatment: Some lymphatic malformations can be treated with aspiration and injection of medicines that cause internal scarring (sclerosing agents).

Lymph nodes that got bigger as a response to an infection usually need no treatment. These will slowly get smaller as the infection heals however, they may not get as small as they were prior to the infection. Usually, lymph nodes less than 2cm do not need surgery.

Surgery: Lymphatic malformations require removal if causing recurrent infection, cosmetic disfigurement, compression of important structures, and failed medical and non-surgical therapies.

Lymph nodes that continue to grow, or if the cause for enlargement is not certain, require removal of the entire node or a piece of the node to determine what is causing the lymph node to enlarge.

If there is an abscess (collection of pus) associated with lymphatic malformation and lymphadenitis, a drainage procedure is needed. In this procedure, a cut is made over the pus pocket and the pus is drained allowing the wound to heal from the bottom up. Sometimes, if the pus pocket is deep, placing a drainage tube or catheter into the cavity is a good option.

Preoperative preparation: For scheduled operations, a bath or shower the night before or the morning prior to surgery is recommended. For lymphatic malformations, careful evaluation of the extent of the malformation with MRI is required prior to surgical intervention. If cancer is being considered as a diagnosis for lymph node enlargement, a chest X-ray should be obtained to make sure that there are not enlarged nodes close to the heart and airways.

Postoperative care:

- Lymphatic malformations: The length of hospital stay is dependent on how big the malformation is and where it is located. Sometimes, drains are placed after removal of lymphatic malformations, which are usually removed one or two days after surgery. Sometimes patients may need to go home with the drain still in place. Careful instructions on drain care will be provided prior to discharge. Compression garments may be used after surgery for lymphatic malformations.
- Lymph node biopsies are usually done as an outpatient procedure.
- Pain medications will be given. Types of medication include acetaminophen (Tylenol®), ibuprofen (Motrin®, Advil®) or narcotics. These may be taken by mouth or by vein.

Risks/Benefits: The risks of surgery include bleeding, possible transfusion, infection of the wound, anesthetic risks, damage to surrounding structures (nerves), and recurrence of the lesions. For large lymphatic malformations, there is also risk of injury to large blood vessels and nerves to the upper extremity. Lymphatic malformations have a high risk of recurrence after surgical excision. The benefit of surgical excision is to prevent growth of the lesion and risk of future infection.

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

Diet: Usually regular age-appropriate diet.

Activity: No heavy activity for 2-4 weeks.

Wound care: Usually no special wound care is needed. Some patients may require drain care.

Medicines: None except for pain medication.

What to call the doctor for: Fever worsening pain, wound problems (redness, drainage), shortness of breath, or persistent emesis.

Follow-up care: With your surgeon in 1-2 weeks after discharge.

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

For lymphatic malformations, there is a higher risk of recurrence with potential need for additional procedures or surgery. Long-term outcomes after lymph node biopsies are excellent; if cancer is found, a referral will be made to a cancer specialist.

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