Non-Tuberculous (NTM) Lymphadenitis

Lymphadenitis is an infection of the lymph nodes. It can be caused by non-tuberculous mycobacteria.

What is lymphadenitis?

Lymph nodes are collections of cells that are part of the immune system. They trap and process germs that get into our bodies. Sometimes the lymph nodes get infected. When this happens it is called lymphadenitis or adenitis.

What are non-tuberculous mycobacteria?

Non-tuberculous mycobacteria or NTM (also referred to as atypical mycobacteria) are a type of bacteria that can cause lymphadenitis. These bacteria are slow growing and rarely cause serious disease in children with normal immune systems. They are sometimes called environmental mycobacteria because they are found throughout our environment, including in soil and water. NTM mycobacteria are not spread from person to person.

What are the symptoms of NTM lymphadenitis?

- A lump under the skin that slowly gets bigger over several weeks. It usually is a single lymph node, but it can involve more than one.
- The skin over the node can redden and take on a purplish color.
- The infected lymph node(s) are usually in the neck or on the face in front of the ear. They can also occur in the armpit or groin area and almost always only on one side of the body.
- The infected lymph node(s) is firm when it first appears, but it can soften and start draining pus.
- The infection doesn't get better with routine antibiotic treatment.
- Some children may have low grade fevers.
- The infected lymph nodes are usually not sore to the touch.

What tests will my child need?

Because of the way that this infection develops, we can be pretty sure it is NTM lymphadenitis by asking questions and examining your child. However, we may do some tests to make sure there isn't another cause of the infection. These may include a skin test for tuberculosis and blood tests. Sometimes we also need to do a biopsy of the lymph node to look for the NTM.

How is the infection treated?

The main treatment is to remove the infected lymph node(s). This usually cures the infection. Sometimes it isn't possible to remove all, or even part, of the node safely without a risk of damage to the nerves in the face and neck.

If the entire node cannot be taken out safely, then we can treat the infection with antibiotics. Sometimes along with the antibiotics, the lymph node can be drained with a needle if the node is uncomfortable but isn't safe to remove surgically.

Even if the infection is not treated, your child's immune system will usually clear the infection on its own over time. However, this can take a very long time and if the lymph nodes are red, draining or uncomfortable, we recommend treating the infection with surgery, antibiotics or both.

Mycobacteria grow very slowly and so are also killed very slowly with antibiotics. Because of this, the antibiotics need to be given for at least 3 to 6 months in order to clear the infection. If part of the node was removed, your child may not need to be on antibiotics as long.

What types of antibiotics are used?

Two or more antibiotics at a time are used to treat NTM lymphadenitis. The antibiotics used to treat NTM lymphadenitis are:

- Clarithromycin
- Azithromycin
- Rifampin
- Rifabutin
- Ethambutol

The antibiotics selected will depend on the culture results (if available), how severe the infection is and what other medicines your child may be taking.

What are the risks of the antibiotics?

Clarithromycin and azithromycin

- Clarithromycin doesn't taste very good in the liquid form.
- Although rare, both azithromycin and clarithromycin cause abdominal discomfort (nausea, diarrhea, abdominal pain) in about 5% of people.
- There is a slight risk of heart rhythm problem when azithromycin and clarithromycin are given with certain other medications – please let your doctor know if your child is taking any other medicines.

Rifampin and Rifabutin

- Rifampin and rifabutin can cause abdominal discomfort and rash.
- There is a small risk of liver problems particularly when taken with certain other medications. Please let your doctor know if your child is taking any other medicines.
- Both medicines can cause your child's tears and urine to turn orange. In older children this can cause staining of soft contacts, but it is otherwise not harmful to your child.
- Rifampin can interact with many medications. Please make sure your doctor knows your child is taking rifampin before your child is prescribed any other medications.

To Learn More

- Infectious Disease 206-987-2073
- Ask your child's healthcare provider
- www.seattlechildrens.org

Free Interpreter Services

- In the hospital, ask your child's nurse.
- From outside the hospital, call the toll-free Family Interpreting Line 1-866-583-1527. Tell the interpreter the name or extension you need.

Ethambutol

- Ethambutol can cause temporary changes in vision. We will check your child's vision when they come to clinic visits. Please let us know if your child develops any problems with their vision.

How will my child be monitored?

We will schedule clinic appointments every 1 to 2 months to review how your child is doing and to watch for any side effects of the medications. If you live far away from Seattle Children's Hospital, we can coordinate these visits with your primary care provider.

For your child, we recommend:

- ❑ Clarithromycin. Your child's dose will be: _____
- ❑ Azithromycin. Your child's dose will be: _____
- ❑ Rifampin. Your child's dose will be: _____
- ❑ Rifabutin. Your child's dose will be: _____
- ❑ Ethambutol. Your child's dose will be: _____

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