

Enlarged Lymph Nodes

What are lymph nodes?

Lymph nodes are small, bean-shaped glands throughout the body. They are part of the lymphatic system, which carries fluid (lymph fluid), nutrients, and waste material between the body tissues and the bloodstream. The lymphatic system is an important part of the immune system, the body's defense system against disease. The lymph nodes filter lymph fluid as it flows through them, trapping bacteria, viruses, and other foreign substances, which are then destroyed by special white blood cells called lymphocytes.

Where are the lymph nodes situated?

Lymph nodes may be found singly or in groups. And they may be as small as the head of a pin or as large as an olive. Groups of lymph nodes can be felt in the neck, groin, and underarms. They are also present throughout the abdomen adjacent to all the internal organs, in the mesentery of the intestines that carries the blood vessels to and from the intestines as well as in the retroperitoneal area next to the major blood vessels like the aorta or the inferior vena cava.

What causes the lymph nodes to enlarge?

Lymph nodes generally are not tender or painful. Most lymph nodes in the body cannot be felt. Lymph nodes often swell in one location when a problem such as an injury, infection, or tumor develops in or near the lymph node.

What does it mean when lymph nodes in two or more areas of the body get enlarged?

When lymph nodes swell in two or more areas of the body, it is called generalized lymphadenopathy. The main causes of such an enlargement are:

- A viral illness
- A bacterial illness including tuberculosis
- Cancer, such as leukemia, Hodgkin's disease, and non-Hodgkin's lymphoma

How are enlarged abdominal lymph nodes diagnosed?

Enlarged lymph nodes inside the abdomen are often too small to be felt in examination. They may be picked up when tests such as sonography or CT scan are carried out during an illness such as fever for which no obvious cause is found (pyrexia of unknown origin). In addition the doctor may order blood tests, endoscopic examination etc to find out the cause of the enlarged lymph nodes. As many diseases cause the abdominal lymph nodes to be enlarged and there is no certain way of knowing which disease is causing them to be enlarged doctors often require a small sample (biopsy) from the lymph nodes to make a clear diagnosis. Only after the diagnosis can the treatment be started.

How is the lymph node biopsy performed?

If along with enlarged abdominal lymph nodes there are lymph nodes in easily accessible areas such as the neck, under the armpits or groin doctors often get a needle sample from these (called fine needle aspiration cytology or FNAC) and send it to a pathologist. For diagnosis of certain diseases, e.g. lymphoma, the pathologist requires a large piece of the lymph node (biopsy). The biopsy may be carried out under local or general anesthesia depending on the site of the enlarged nodes and patient and surgeon preference. In patients who only have enlarged abdominal nodes but no nodes elsewhere that can be easily biopsied, the situation is slightly different. It may be possible to biopsy lymph nodes at some abdominal locations under the guidance of ultrasound or CT scan. The doctor passes a fine needle to the area of the enlarged lymph nodes under local anaesthesia as the area is being monitored on an ultrasonography machine CT scan.

What if the diagnosis cannot be made with certainty after a CT-guided biopsy?

Sometimes the sample obtained using a CT-guided biopsy is too small for the pathologists to give a definite diagnosis of the cause of enlarged abdominal lymph nodes. Also, in some patients the enlarged lymph nodes may be located so close to important blood vessels or internal organs that it is risky to attempt a CT-guided biopsy. Traditionally such patients required an open operation to obtain a sample from the lymph nodes. Today most abdominal lymph nodes that cannot be biopsied under CT guidance (which is the preferred method whenever possible, as it saves the patient from having a surgery) patients can have a laparoscopic biopsy of the enlarged lymph nodes.

How is laparoscopic biopsy of enlarged abdominal lymph nodes performed?

Laparoscopic lymph node biopsy is carried out under general anaesthesia. The surgeon makes a small (about 1-cm) incision and places a short tube called a cannula through the abdominal wall. This cannula is connected to a special pump that pumps carbon dioxide gas. As the abdomen gets filled up with the gas, the abdominal wall is lifted up, thus providing the surgeon a space to work in. To look inside the abdomen, the surgeon passes a telescope connected to a miniature video camera through the cannula. The telescope picks up the picture of the inside of the abdomen and transmits it to a television screen. The surgeon then exposes the area of enlarged lymph nodes and obtains a biopsy with the help of special, long instruments introduced inside the abdomen through two other cannulas and by observing the picture of the operative site on the television screen. Usually the sample is sent to a pathologist immediately for processing (called frozen section) when the patient is under anaesthesia. This helps the surgeon, as the pathologist is able to indicate whether or not the sample is adequate and also is able to point to a tentative diagnosis. The final diagnosis often takes five to seven days as the sample has to be processed in a particular manner and special tests carried out on it. In case the sample is deemed inadequate the surgeon can obtain more samples before the patient is brought out of anaesthesia. It is vital that in all patients with enlarged abdominal lymph nodes a biopsy sample is obtained and the correct diagnosis confirmed before commencing the treatment. Often patients are started on an "empirical" anti-tubercular treatment as tuberculosis is a common (but not the only) cause of lymph node enlargement. This can have serious consequences if the patient does not respond to the treatment and a biopsy performed at a later date shows the lymph nodes to be affected by some other disease, e.g. lymphoma. The delay in obtaining a biopsy and establishing an accurate diagnosis could result in a serious delay in starting the appropriate treatment.

What are the advantages of a laparoscopic lymph node biopsy?

- Ability to obtain adequate sample from lymph nodes under the magnified view
- Ability to remove even a single, small lymph node identified on the CT scan which may be difficult to biopsy under CT-guidance
- Less pain from the incisions after surgery
- Shorter hospital stay
- Shorter recovery time
- Faster return to normal diet
- Faster return to work or normal activity
- Better cosmetic healing

Prepared by
Dr Deepraj Bhandarkar
www.laparoscopyindia.com

Disclaimer

This brochure is for information purpose only and no attempt to provide specific medical advice is intended. It is not intended to infer that surgery is always the best choice for a particular condition. You should always contact a specialist directly for diagnosis and treatment of your specific problem, and consider taking a second opinion if appropriate.