

Düsseldorf, Germany

Mini Course 2 (Technologists)

Sunday, October 14, 15:45-16:45

Session Title

Lymphoscintigraphy and Sentinel Node

Chairperson

Sebastijan Rep (Ljubljana)

Claudiu Pestean (Cluj Napoca)

Programme

15:45 - 16:15 Neva Giroto (Rijeka): Lymphoscintigraphy in Lymphedema

16:15 - 16:45 Jan Jamsek (Ljubljana): A Technologist's Guide to Sentinel Lymph Node Scintigraphy

Educational Objectives

1. Understand when to use lymphoscintigraphy of the lymph vessels and sentinel lymph nodes.
2. Describe the patient's preparation.
3. Describe the characteristics of radiopharmaceuticals used in lymphoscintigraphy.
4. Describe the method and protocols to use in the lymphoscintigraphy of the lymph vessels.
5. Understand what are the indications and contraindications in the imaging of lymph vessels and lymph vessels.
6. Describe the procedures for imaging localization of the sentinel lymph nodes.
7. To understand the role of planar imaging and SPECT/CT in the sentinel lymph nodes.
8. Describe the possible complications.
9. Understand the role of NM technologist in performing lymphoscintigraphy.

Summary

Lymphoscintigraphy is a nuclear medicine study used for imaging lymph vessels and lymph nodes. Radio-labelled sulphur colloid (99mTc-NANOCOLL) are applied as intradermal injection on the area of the body to be imaged. Lymphoscintigraphy is accurate for detecting abnormalities of the lymphatic system in the extremities regardless of the cause. The imaging can demonstrate slow or absent lymph flow and areas of reflux (backflow). Lymphoscintigraphy can reveal abnormalities of lymph uptake in lymph nodes with some forms of lymphedema. Lymphoscintigraphy can predict response to treatment. With scintigraphy the main, larger lymph vessels and nodes are shown, but not the deep transport lymph vessels carrying lymph from the nodes back to the blood circulation.

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Annual Congress of the
European Association of Nuclear Medicine

October 13 – 17, 2018
Düsseldorf, Germany

Lymphoscintigraphy also identify the sentinel lymph node for breast cancers and melanoma. The sentinel lymph node is the first lymph node draining a cancer. In case of established cancerous dissemination, it is postulated that the sentinel lymph nodes are the target organs primarily reached by metastasizing cancer cells from the tumour. Thus, sentinel lymph nodes can be totally void of cancer because they were detected prior to dissemination. In the case of multiple nodes, the nodes that demonstrate significant radiotracer uptake may all or individually also potentially accumulate metastatic cells; therefore, these should be surgically removed and tested for metastatic cells. Sentinel lymph nodes mapping can be performed with fused SPECT/CT images or with planar images.

Key Words

Lymphoscintigraphy, lymphedema, sentinel lymph nodes, breast cancer, melanoma

Take home Message

Lymphoscintigraphy is the imaging of lymph vessels and lymph nodes. The imaging demonstrates slow or absent lymph flow and areas of reflux. This is also the staging modality of choice for sentinel lymph nodes mapping usually for breast cancers and melanomas.