

Sentinel Lymph Node Biopsy

Sentinel node is the first lymph node or lymph node group to which a tumor can metastasize. Biopsy of this node for the purpose of determining metastatic spread is called Sentinel Lymph Node Biopsy. It is a valuable method of assessing lymph node spread of a tumor as if the sentinel node is negative, then tumor is almost certainly unlikely to have spread to lymph nodes. Because of this, it is a valuable process of assessment of axillary lymph nodal status in breast cancer as, if it is negative, full surgical dissection of the axilla, with its antecedent complication of lymphoedema can be avoided. However, in case of positive sentinel lymph node in the axilla, axillary dissection should be carried out.

Before the biopsy, a dye has to be injected. This may be either a blue dye (lymphazurin blue) or a radioactive dye (Tc^{99m} -labelled radiocolloid). Dye is injected either intradermally, or into the tumor or sub-areolar. The sentinel lymph node can be visualized pre-operative in case of radio-labelled dye using a gamma camera and located per-operatively using a GM counter. Whereas, if blue dye is used, it can be visualized after axilla is exposed by a small incision. In either case, the sentinel lymph node (1-3) is removed and the incision is closed.

The sentinel node is then examined by the pathologist, including imprint cytology, histopathology and immunohistochemistry. If the SN is positive for tumor metastasis (>0.2 mm) then a formal surgical axillary staging should be carried out whereas if it is negative, the patient need no further treatment to the axilla.

The SLNB should only be done for patients whose axillae are negative clinically, radiologically and on core biopsy/FNAC-axillary surgery is indicated for all other cases. Also the SLNB should be done only if there is an experienced SLNB team present-comprising the pathologist, radiologist, nuclear medicine physician and surgeon-medical and radiation oncologists should also be involved with the team.