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Sentinel node biopsy is an effective option for early-stage cervical cancer

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A prospective multicenter study conducted by researchers in France suggests that the majority of women with early-stage cervical cancer can safely undergo sentinel node (SN) biopsy – a technique in which only one to three lymph nodes are removed to determine whether cancer has spread – in lieu of the traditional, more invasive pelvic lymph node removal. This study, presented at the American Society of Clinical Oncology 2009 meeting, showed that SN biopsy was just as useful as full pelvic lymph node removal for identifying even small amounts of cancer cells that spread to lymph nodes in atypical areas of the pelvis.

"Sentinel node biopsy is a good option for women with cervical cancer because it enables us to remove fewer lymph nodes to get information about cancer spread, and could decrease the risk of complications from surgery, such as lymphedema," said Dr. Fabrice Lecuru, professor at George Pompidou European Hospital in Paris, and the study's lead author. "Previous studies have shown that sentinel node biopsy can be used to assess cancer spread in usual areas of the pelvis, but our findings add to this growing body of research by showing that this approach is also effective for identifying cancer spread in less common areas of the pelvis and the abdomen. This approach may become a new standard of care for early-stage cervical cancer."

Ten to 15 per cent of patients with early-stage cervical cancer experience recurrence. Some are due to lymph nodes that were missed during surgery or because of undetected cancer spread to other lymph nodes. During standard surgery, several pelvic lymph nodes are removed and examined for the presence of cancer cells. During SN biopsy, however, a blue dye and radioactive substance that can be traced with imaging techniques are used to locate the first lymph node (the sentinel node) where cancer cells would travel after leaving the cervix. If this node is free of cancer cells, no other lymph nodes should be removed. Since the removal of lymph nodes may impair lymphatic drainage and cause uncomfortable swelling in the legs called lymphedema, doctors have been assessing SN biopsy (which is routinely used for breast cancer and melanoma patients) to see if it can be used to gauge cervical cancer spread.

Prior studies have shown that SN biopsy can be used in cervical cancer patients to predict cancer spread to lymph nodes in the pelvis most likely to contain cancer cells. But in this study, Dr. Lecuru and his colleagues also evaluated the biopsy of sentinel nodes in atypical areas of the pelvis in 128 women with early-stage cervical cancer who also had full pelvic lymph node removal for comparison. They then analysed sentinel nodes for micrometastastic cancer (0.2 to 2 mm in size) and isolated tumour cells as well as areas of cancer greater than 2 mm (macrometastases).

After analysing these nodes, researchers demonstrated that full pelvic lymph node removal and its associated complications could have been avoided in 81.2 per cent of women. Researchers also found that in nearly 40 per cent of women, SN biopsy alone would have provided additional, important information about patients' disease; for example, SN biopsy was more useful than routine techniques for showing that lymphatic drainage occurred via unusual pathways to less commonly explored areas of the pelvis or of the abdomen, and for detecting micrometastases or isolated tumour cells.