구연발표 II-1

Validity of Sentinel Lymph Nodes Mapping Surgery by Subserosal Dye Injection in Gastric Cancer

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Sentinel lymph nodes concept has been validated for breast cancer and malignant melanoma. However, there are still debates in application of sentinel lymph node concept in gastric cancer and controversies in several technical issues. Intraoperative subserosal dye injection is simple and easy to perform and well visualize the lymphatic flow in peritonealized organ. So we evaluated the validity of sentinel lymph nodes mapping surgery by subserosal dye injection in gastric cancer.

T1 or T2 gastric adenocarcinoma patients without distant metastasis based on preoperative evaluation and intraoperative findings were enrolled in this study. Informed consent was obtained from all patients. After the laparotomy and exploration of whole abdomen, primary lesion was identified by palpation and 1% isosulfan blue 1cc was injected around the lesion subserosally. Five minutes after the injection, we identified the lymph nodes that stained blue and defined them as sentinel lymph nodes. After the biopsy of those blue- stained lymph nodes, formal D2 lymph node dissection was performed. For the pathologic evaluation, all dissected lymph nodes were stained with hematoxylin and eosin in one slice per node at the mid portion of node.

Between May 23, 2002 to Jan 16, 2003, 67 patients were enrolled in this study. In 61 of 67 cases (91.0%), we identified sentinel lymph nodes, average ($\pm$S.D.) 2.5 ± 1.7 lymph nodes per case. Total number of dissected lymph nodes were 35.3 ± 9.7 per case. In 6 failed cases, the primary lesions were mostly located at non-peritonealized area of stomach, lesser curvature side of upper two-third and posterior wall of upper third. Metastatic sentinel lymph nodes were found in 9 cases and there was no metastasis in sentinel lymph nodes of remaining 52 cases. In 8 of 9 metastatic sentinel lymph nodes, metastasis was found in non-sentinel lymph node, so the positive predictive value was 88.9%. There was 7-skip metastasis in non-metastatic sentinel lymph node, so the positive predictive value was 13.7% ($p<0.001$). In 7 cases of skip metastasis, primary lesions were mostly located at lower one third of stomach.

Lymphatic mapping and sentinel lymph nodes biopsy is technically feasible and sentinel lymph node concept is valid in gastric cancer. Subserosal dye injection has a benefit of easy clinical application without difficulty. However, according to the location of primary tumor, cautious approach is needed to improve the success rate of sentinel lymph nodes identification and detect the skip metastasis.