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ABSTRACTS

Gastric Cancer

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Gastric Cancer Surgery: East and West

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Despite declining incidence, particularly in the US and Western Europe, gastric cancer remains the second highest cause of cancer deaths worldwide.[1] The marked differences in postoperative morbidity, mortality rates and long-term survival after surgery between Eastern and Western countries have been well documented.[2] Although differences in treatment quality are important, other variables may also affect overall survival rates and partially explain this gap in clinical outcomes.[3] These variables include the higher incidence of early-stage gastric cancers (EGC) detected through routine check-ups or screening programs in Korea and Japan, and the higher incidence of far advanced gastric cancer and esophagogastric junction (EGJ) tumors in Western countries.

Regarding the surgical treatment of gastric cancer, factors that may potentially explain the different outcomes of patients in the East and West include tumor factors (extent of disease and tumor location); patient factors (age, BMI, and co-morbidity); and treatment factors (different level of surgeon dexterity and perioperative care due to clinical volume).[4]

Gastric cancer surgery can be divided into three parts: 1) gastric resection, 2) lymph node dissection, and 3) reconstruction. Among these, surgeons across Western and Eastern countries have no major differences in opinion regarding gastric resection and reconstruction; however, lymph node dissection is one of the most hotly debated topics between the East and West.

Surgeons in the East favor extended D2 lymph node dissection (LND). Several factors support this opinion: First, D2 dissection can be performed safely. Even the spleen-preserving total gastrectomy procedure for advanced proximal gastric cancer can be done not only safely, but also effectively in view of lymph node dissection.[5,6] Second, D2 surgery provides better local control and thus improves survival rates.[7,8] Third, pathologic staging is more accurate for patients undergoing a D2 procedure.

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Most surgeons in the West, however, favor D1 lymph node dissection.[9,10] Their opinion is that evidence is lacking to support the superiority of D2 over D1 surgery, and D2 cannot be performed safely due to high postoperative morbidity and mortality. The Southwest Oncology Group (SWOG) American Intergroup 0116 study suggested that limited LN dissection with chemoradiation could eliminate the residual lymph node metastases that could be removed by D2.[11] Furthermore, National Comprehensive Cancer Network (NCCN) guidelines recommend perioperative chemoradiation in patients with advanced gastric cancer (AGC) along with D1 lymph node dissection.

In summary, the extent of surgery for an individual patient has to be decided based on tumor-, patient-, and treatment-related factors. In the case of AGC, D2 lymph node dissection and adjuvant chemotherapy in the East, and D1 lymph node dissection and perioperative chemoradiation in the West, might be appropriate.

References

1. Parkin, D.M. Cancer burden in the year 2000. The global picture. *Eur J Cancer* 37, S4-S66 (2001).

2. Hyung W.J., *et al.* Changes in treatment outcomes of gastric cancer surgery over 45 years at a single institution. *Yonsei Medical Journal* 49, 409-415 (2008).

3. Roukos, D. H. Current status and future perspectives in gastric cancer management. *Cancer Treatment Reviews* 26, 243-255 (2000).

4. Hannan, E. L., Radzyner, M., Rubin, D., Dougherty, J. & Brennan, M. F. The influence of hospital and surgeon volume on in-hospital mortality for colectomy, gastrectomy, and lung lobectomy in patients with cancer. *Surgery* 131, 6-15 (2002).

5. Lee, K. Y. *et al.* Impact of splenectomy for lymph node dissection on long-term surgical outcome in gastric cancer. *Annals of Surgical Oncology* 8, 402-406 (2001).

6. Oh, S. J. *et al.* The effect of spleen-preserving lymphadenectomy on surgical outcomes of locally advanced proximal gastric cancer. *Journal of Surgical Oncology* 99, 275-280 (2009).

7. Yoo, C. H., Noh, S. H., Shin, D. W., Choi, S. H. & Min, J. S. Recurrence following curative resection for gastric carcinoma. *The British Journal of Surgery* 87, 236-242 (2000).

8. Wu, C. W. *et al.* Randomized clinical trial of morbidity after D1 and D3 surgery for gastric cancer. *The British Journal of Surgery* 91, 283-287 (2004).

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9. Bonenkamp, J. J. *et al.* Extended lymph-node dissection for gastric cancer. *New England Journal of Medicine, The* 340, 908-914 (1999).

10. Cuschieri, A. *et al.* Patient survival after D1 and D2 resections for gastric cancer: long-term results of the MRC randomized surgical trial. Surgical Co-operative Group. *The British Journal of Cancer* 79, 1522-1530 (1999).

11. Macdonald, J. S. *et al.* Chemoradiotherapy after surgery compared with surgery alone for adenocarcinoma of the stomach or gastroesophageal junction. *New England Journal of Medicine, The* 345, 725-730 (2001).