jgc
J Gastric Cancer 2012;12(1):1-2 • http://dx.doi.org/10.5230/jgc.2012.12.1.1
Editorial

The Future of Sentinel Node Oriented Tailored Approach in Patients with Early Gastric Cancer

Keun Won Ryu

Gastric Cancer Branch, Research Institute and Hospital, National Cancer Center, Goyang, Korea

After the introduction of sentinel node biopsy (SNB) concept in early gastric cancer (EGC) more than decade, it is not yet a practically acceptable procedure in the same manner as breast cancer or melanoma.(1-3) In this issue, Dr. Miyashiro critically reviewed the practical problem and current status of SNB in EGC and suggested more sophisticated methods.(4) The debating points made in this review article by Dr. Miyashiro is that which is commonly accepted by the consensus of the surgical society. For the optimistic future of SNB in EGC, several ideas need be shared with researchers throughout the world.

The first consideration is that the protocol of SNB should be universally applicable. A highly standardized protocol of surgical procedure and pathologic evaluation cannot be adopted in all institutions, even with the satisfactory accuracy of SNB. The protocol, which can be done only by a specialized center, is not ideal and we should develop a more practical method that can be performed by a wider range of institutions.(5)

The second consideration is that the end goal of SNB in EGC surgery is the preservation of organ and its function by minimizing lymph node dissection (LND). In contrast, SNB in breast cancer and melanoma is performed to prevent lymphedema by minimizing LND. In the context of SNB, the pick-up method is more appropriate rather than the basin dissection. However, the pick-up method is somewhat limited in terms of sensitivity in EGC. If we can accurately diagnose the lymph node metastasis and the organ and function preserving surgery by basin dissection, it is the alternative method of pick-up method. In the era of minimally invasive surgery, most of EGC is now operated with laparoscopic surgery and the difficulty of pick up biopsy by laparoscopy should also be considered.(6,7)

The third consideration is the issue of the qualifying involved surgeon, endoscopist, pathologist and institution. The qualification is usually estimated by case number of practice, which serves as a representative of the learning curve.(8) However, the qualification cannot not be estimated merely by the case number because personal and institutional learning curves are different each other and should be measured by somewhat objective protocol.

After two multicenter trials of SNB in Japan, we have invaluable lessons and can prepare for the prevention against defects and problems.(4,9,10) For the confirmation of clinical applicability of SNB in EGC, multicenter phase III trial should be mandatory. Recently, Korean surgical societies are now preparing trials of sentinel node oriented tailored approach (SENORITA trial) comparing the conventional laparoscopic gastrectomy versus laparoscopic SNB, with the organ and function preserving surgery of EGC. Before the randomized controlled trial, a qualification study of participating institutions will be done by measuring the completion of each critical step of SNB protocol.(11)

Several practical obstacles should be corrected by the evidence-based approach for the optimistic future of SNB. For an improved quality of life in the long-term surviving EGC patient, organ and function preserving surgery is essential and indispensible by applying SNB in the future.

Correspondence to: Keun Won Ryu
Gastric Cancer Branch, Research Institute and Hospital, National Cancer Center, 809, Madu 1-dong, Ilsandong-gu, Goyang 410-769, Korea
Tel: +82-31-920-1628, Fax: +82-31-920-0069
E-mail: docryu@korea.com
Received March 5, 2012
Revised March 7, 2012
Accepted March 7, 2012

Acknowledgments

This work was supported by the Nation Cancer Center, Republic of Korea (grant no. 1110550).

References

1. Ryu KW, Eom BW, Nam BH, Lee JH, Kook MC, Choi IJ, et al. Is the sentinel node biopsy clinically applicable for limited lymphadenectomy and modified gastric resection in gastric cancer? A meta-analysis of feasibility studies. J Surg Oncol 2011;104:578-584.
2. Wang Z, Dong ZY, Chen JQ, Liu JL. Diagnostic value of sentinel lymph node biopsy in gastric cancer: a meta-analysis. Ann Surg Oncol 2011 Nov 3. [Epub ahead of print]
3. Lips DJ, Schutte HW, van der Linden RL, Dassen AE, Voogd AC, Bosscha K. Sentinel lymph node biopsy to direct treatment in gastric cancer. A systematic review of the literature. Eur J Surg Oncol 2011;37:655-661.
4. Miyashiro I. What is the problem in clinical application of sentinel node concept to gastric cancer surgery? J Gastric Cancer 2012;12:7-12.
5. Aikou T, Kitagawa Y, Kitajima M, Uenosono Y, Bilchik AJ, Martinez SR, et al. Sentinel lymph node mapping with GI cancer. Cancer Metastasis Rev 2006;25:269-277.
6. Lee JH, Ryu KW, Kook MC, Lee JY, Kim CG, Choi IJ, et al. Feasibility of laparoscopic sentinel basin dissection for limited resection in early gastric cancer. J Surg Oncol 2008;98:331-335.
7. Park do J, Kim HH, Park YS, Lee HS, Lee WW, Lee HJ, et al. Simultaneous indocyanine green and (99m)Tc-antimony sulfur colloid-guided laparoscopic sentinel basin dissection for gastric cancer. Ann Surg Oncol 2011;18:160-165.
8. Lee JH, Ryu KW, Lee SE, Cho SJ, Lee JY, Kim CG, et al. Learning curve for identification of sentinel lymph node based on a cumulative sum analysis in gastric cancer. Dig Surg 2009;26:465-470.
9. Kitagawa Y, Takeuchi H, Takagi Y, Natsugoe S, Terashima M, Murakami N, et al. Prospective multicenter trial of sentinel node mapping for gastric cancer. J Clin Oncol 2009;27(15S): 4518.
10. Miyashiro I, Hiratuska M, Sasako M, Sano T, Nakamura K, Nashimot A. Final results of the multicenter trial JCOG0302: High false negative rate and less-accurate intraoperative histological examination using one plane as serious problem for clinical application. 2011 IGCC proceeding FP 18-8.
11. http://www.clinicaltrials.gov/ct2/show/NCT01544413/Accessed February 28, 2012