Surgical Treatment and Adjuvant Therapy for Curable Advanced Gastric Cancer

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Background
Local control is essential to cure gastric cancer. In the Asian area, extended lymph node dissection (LND) is commonly used for local control, providing best survival in the world.

Purpose
To decide the optimal extent of nodal dissection and possible options of suitable adjuvant treatment combined with optimal surgery.

Methods
Clinical studies on LND were reviewed carefully with special attention to the quality of surgery given in the trial. Clinical studies on adjuvant chemotherapy (CX) or chemoradiotherapy (CRT) were reviewed with special attention to the type of surgery given with these adjuvant treatment.

Results
Two European studies comparing D1 versus D2 were negative but had crucial problem of quality of surgery, showing unacceptably high hospital mortality. An Italian phase 2 study showed safety and good survival results for Western population. The Taiwanese study (D1 vs D2) showed low hospital mortality and significantly improved overall survival of D2. The JCOG study comparing D2 vs D3 could not show any benefit of D3 for prophylactic purpose. Taking D2 as optimal surgery, the results of many Western trials on adjuvant therapy should be carefully applied. INT0116 on adjuvant CRT showed clear benefit of CRT but only when combined with D0/1 surgery. This study for the first time clearly demonstrated that local control is essential to cure gastric cancer and that D0/1 surgery alone is not sufficient treatment. MAGIC trial to evaluate peri-operatice adjuvant therapy had several critical problems in terms of quality of trial including type of surgery and low compliance of CX, although it showed statistically significant improvement of DFS and OS for peri-operative CX. Type of LND applied in this study was D2 for nearly half of patients who underwent curative surgery. A Japanese study on the effect of post-operative S-1 monotherapy showed significant benefit of CX. One of recent Korean study showed significant benefit of CX (Intra-peritoneal CDDP immediately after surgery, followed by administration of MMC on day1 and 5-FU+CDDP iv therapy for 6 months in combination with oral 5-FU derivatives) but rational of the treatment was not easy to understand. Just recently a large sized RCT, CLASSIC study terminated the accrual. This study showed feasibility of the combination CX of capecitabine and oxaliplatin. Survival data is awaited.

Conclusion
R0 resection with D2 LND is the optimal surgery. Some kind of post-operative adjuvant CX including S-1 is highly recommended after D2 surgery.