

D2 Lymphadenectomy for Gastric Adenocarcinoma: Long-term Results and the Impact of Surgeon Experience on the Survival Rates

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Abstract:

Background: Surgery is the main component of the multimodality treatment of gastric cancer (GC). The present study aims to comparatively assess the early and long-term outcomes after D1 and D2 lymph node dissection. Furthermore, the impact of surgeon case-load on the long-term survival after D2 gastrectomies is also explored.

Methods: A number of 773 patients with curative-intent surgery for GC adenocarcinoma (1997 – 2010: 325 patients with D1 lymphadenectomy, 448 patients with D2 lymphadenectomy) were included.

Results: No statistically significant differences of overall morbidity rates were observed between the D1 and D2 groups of patients (16.3% for D1 group vs. 18.8% for D2 group, $p = 0.39$). However, statistically significant higher rates of post operative pancreatic fistulae rates were observed in the D2 group of patients (3.2% for D1 group vs. 7.9% for D2 group, $p < 0.001$). Interestingly, statistically significant higher rates of mortality were observed for the D1 group of patients (8.9% for D1 group vs. 2.9% for D2 group, $p < 0.001$). The 5-year survival rate was statistically significant higher in the D2 group of patients (median overall survival time of 18 months for D1 group vs. 60 months for D2 group, $p < 0.001$). A statistically significant correlation ($p=0.005$, $r=0.571$) was observed between the overall survival time and the number of D2 lymphadenectomies performed by each surgeon.

Conclusions: D2 lymph node dissection is associated with statistically significant improved long-term survivals at the expense of higher postoperative pancreatic fistulae rates, compared to D1 surgery. However, no increased mortality rates were observed in the D2 group of patients. D2 radical gastrectomies should be performed in high-volume centers by high case-load surgeons.

Key words: gastric cancer, radical gastrectomy, D2 lymph node dissection, postoperative complications, survival