

WHAT IS NEW ABOUT EXTENSION OF LYMPHADENECTOMY FOR GASTRIC CANCER? A SYSTEMATIC REVIEW AND META-ANALYSIS

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Background: The most appropriate extension of lymphadenectomy has been a hot topic for several decades. In the Nineties, two randomized clinical trials, performed in the UK and the Netherlands, found no survival advantage after extended (D2) lymphadenectomy with respect to limited (D1) lymphadenectomy. D2, on the other hand, was burdened by a very high post-operative mortality. However, eastern surgeons, as well as the Italian Research Group for Gastric Cancer (GIRCG), supported routine use of D2 lymphadenectomy. The latter view was progressively adopted by most international and national guidelines [1-3]. Only the National Comprehensive Cancer Network guidelines, produced in the US, just mention three different types of lymphadenectomies (D0 (very limited), D1, D2), with the only recommendation to remove at least 15 lymph nodes.

Aim: To update current evidence on extension of lymphadenectomy and the most recommended lymphadenectomy according to international guidelines.

Methods: A systematic review was carried out on Web of Science database and meta-analyses were separately performed on RCTs. Research included publications from 2010 to 2021 and combined the following Medical Subject Headings (MeSH) terms: "Lymphadenectomy and gastric cancer and RCT" or "Lymphadenectomy and gastric cancer and guidelines". Meta-analysis of overall survival and recurrence-related survival was also performed.

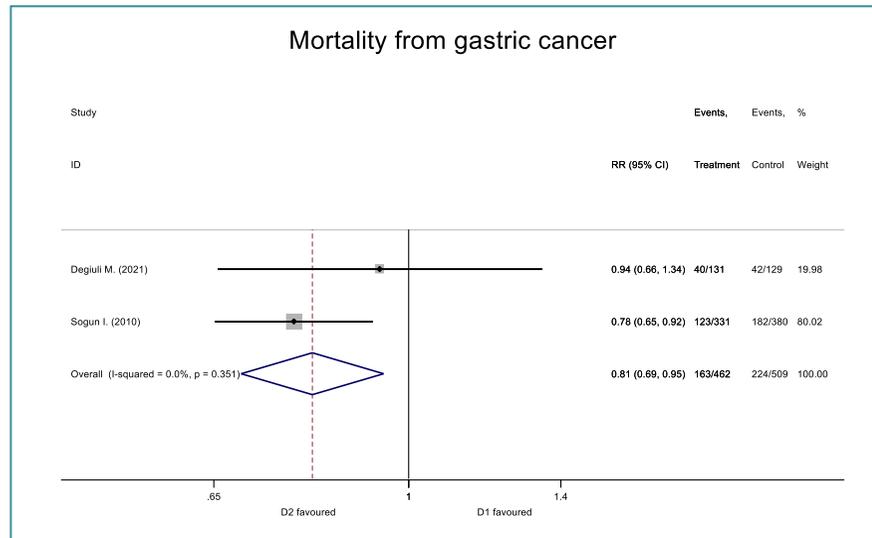


Figure 1. Forest plot comparing recurrence-related survival in gastric cancer patients undergoing D1 or D2.

Results: In the last ten years, no new RCT comparing D1 and D2 was found. Only two articles reported the late results of a Dutch [4] and Italian [5] trials. No difference emerged between D1 and D2 treatments as regards overall survival (OS) (RR of D2 vs D1=0.98, 95% CI 0.82-1.16; p=0.808) while D2 treatment was significantly favored as regards recurrence-related survival (RR=0.81, 95% CI 0.69-0.95; p=0.008), i.e. when neglecting postoperative mortality and other causes of death (**Figure 1**). Interestingly the Italian trial found that OS and Disease-Specific Survival (DSS) was better after D1 in elderly patients and in early stages, while DSS was better after D2 in advance stages (p>1 N+).

Conclusions: New RCTs comparing D1 or D2 were lacking during the observation period, and this likely reflects the absence of equipoise concerning the two procedures according to most international guidelines (ESSO-ESMO-ESTRO). Only 15-year results of previously performed trials were published as an update, and they support an advantage of D2 over D1 if performed with no or minimal postoperative mortality. In addition, the need to tailor treatment to patient and tumor's characteristics emerged. The scientific surgical community is moving from an Eastern-Western confrontation about D1/D2 to a more sensible tailored approach.

References:

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