

The role of lymphadenectomy in the treatment of gastric cancer

Andrzej L. Komorowski ^{A,D,F} 

Department of Surgery, College of Medicine, University of Rzeszów, Poland

A – Research concept and design, B – Collection and/or assembly of data, C – Data analysis and interpretation, D – Writing the article, E – Critical revision of the article, F – Final approval of the article

Abstract

In this commentary the author discusses the current status and clinical importance of lymphadenectomy performed for the treatment of gastric cancer.

Keywords: gastric cancer, lymphadenectomy, surgery, quality control

Introduction

The debate concerning the extent of lymphadenectomy during gastric cancer surgery has been going on for some 30 years [1]. The definitions of D1, D2 and D3 have evolved together with the indications for each one of them. Over time, the data have gradually confirmed one thing: the more extensive the lymphadenectomy, the better for gastric cancer patients. Current TNM requires 16 nodes to be resected, and a study by Woo et al. suggests that 29 or more translates into better survival [2]. In a recent paper Desiderio et al. define “optimal lymphadenectomy” as retrieval of 30 nodes or more [3]. In fact, at gastric cancer centres of excellence the median number of nodes retrieved can be as high as 35 [4], which is indeed reassuring. Unfortunately, the reality – as shown by Desiderio et al. – is much less optimistic. Almost 50% of patients operated on in the USA underwent inadequate lymphadenectomy (less than 16 nodes), while lymphadenectomy was optimal for only 15%. Let us not underestimate this data: every second patient underwent an operation that was not optimal according to current standards of treatment. Not surprisingly, suboptimal lymphadenectomy reduced the chances of survival. How was such a disastrous quality of surgery possible in a country famous for rigorous surgical training? An intuitive explanation would be that surgeons are required to define their lymphadenectomy as D1, D2 or D2+, but rarely

✉ Andrzej L Komorowski, email: z5komoro@cyf-kr.edu.pl

is this subsequently compared to the number of excised nodes. It is fairly easy to call an operation D2+. However, if this operation yields less than 16 nodes, something is definitely wrong. Either the surgeon is being economical with the truth or s/he does not understand what D2+ means [5]. Data falsification is a serious problem and not easy for the medical and surgical community to deal with. It is difficult to detect, difficult to prove and the consequences for those who are guilty of it are quite limited [6].

However, if the problem only lies in the surgical technique – and this seems to be the most likely explanation for these findings – it should clearly be much easier to correct. Understanding the technical aspects of adequate lymphadenectomy is simply a matter of training. The data point out that this training might be suboptimal. So maybe it is time to admit that western training in gastric lymphadenectomy is inferior to what we know from the Asian surgical community, and we have to work hard to close this gap.

Desiderio et al. are optimistic, stating that in the last study period the percentage of patients undergoing optimal lymphadenectomy rose from 15% to 30%. We can agree that this is a good sign, but for 70% of American patients, lymphadenectomy is still less than adequate. We are spending millions of dollars on the development of new chemotherapeutic agents, and yet we have a way to improve the survival rate of gastric cancer patients considerably, simply by performing better quality surgery. Perhaps the time has come to spend a fraction of those millions on better training and quality control of lymphadenectomy for gastric cancer.

References

1. Degiuli M, De Manzoni G, Di Leo A, D'Ugo D, Galasso E, Marrelli D, Petrioli R, Polom K, Roviello F, Santullo F, Morino M. Gastric cancer: Current status of lymph node dissection. *World J Gastroenterol.* 2016;22(10):2875–2893.
2. Woo Y, Goldner B, Ituarte P, Lee B, Melstrom L, Son T, Noh SH, Fong Y, Hyung WJ. Lymphadenectomy with Optimum of 29 Lymph Nodes Retrieved Associated with Improved Survival in Advanced Gastric Cancer: A 25,000-Patient International Database Study. *J Am Coll Surg.* 2017;224(4):546–555.
3. Desiderio J, Sagnotta A, Terrenato I, Garofoli E, Mosillo C, Trastulli S, Arteritano F, Tozzi F, D'Andrea V, Fong Y, Woo Y, Bracarda S, Parisi A. Long-term survival of patients with stage II and III gastric cancer who underwent gastrectomy with inadequate nodal assessment. *World J Gastrointest Surg.* 2021; 13(11):1463–1483.
4. Bencivenga M, Torroni L, Verlato G, Mengardo V, Sacco M, Allum WH, de Manzoni G. Lymphadenectomy for gastric cancer at European specialist centres. *Eur J Surg Oncol.* 2021;47(5):1048–1054.

5. Kodera E, Fujiwara M, Ito Y, Ohashi N, Nakayama G, Koike M, Nakao A. Radical surgery for gastric carcinoma: it is not an issue of whether to perform D1 or D2. Dissect as many lymph nodes as possible and you will be rewarded. *Acta Chir Belg.* 2009;109(1):27–35.
6. Komorowski AL. Reviewers just don't care anymore. *Nowotwory J Oncol.* 2021;71(5):312–313.