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LETTER TO THE EDITOR

Letter to Editor Reply to: "Centralization of Pancreatic Surgery in Europe: an Update"

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We thank the authors from Norway for their important comments and update to our systematic review of centralization of pancreatic surgery in Europe.

We are aware of the fact that many countries in Europe try to establish special referral centers for pancreatic surgery. However, even though many European countries try to centralize pancreatic surgery, strategies, data on efficacy, and outcomes are often not published yet. A review confounds on the available data and is always a snapshot of the current situation. Indeed, the study references from Norway were not published at the time of our literature search, which ended in December 2017.[1]

The volume-outcome association might be a matter of debate, but at present, centralization is one of the most established and particularly modifiable tool to ensure the optimal outcome for patients requiring pancreatic surgery. The recently published nationwide audit data from the Netherlands again shows differences regarding the mortality between high- and low-volume centers. As a novelty, the authors explained this fact by a higher rate of failure to rescue (FTR) after major complications in low-volume centers (< 30). They conclude that the hospital volume is an independent predictor of FTR, but the decisive statement of the study is that the hospital volume is the only risk factor for FTR that can be modified.[2]

However, there is still an ongoing discussion of other outcome-related factors. As Søreide et al. mentioned in their update, the availability of specialists and a multidisciplinary experienced team are clearly the basis for the successful treatment of patients.[3] Therefore, the volume-outcome association may serve as a surrogate marker of specialization and experience, as a higher case load ultimately leads to better-trained multidisciplinary and specialized teams.

Strategies of centralization are not transferable one to one to every country, especially regarding the absolute number of procedures. Securing the regional existence of an experienced multidisciplinary team might be an alternative strategy for some regions in Europe. This approach could be more beneficiary for the population than providing one high-volume center. But in the end, the multidisciplinary team has to gain experience through a high number of cases elsewhere before, if the regional population density or other factors predetermine a lower annual number of procedures.[4] Tseng et al. have shown that pancreatic surgery has an inherent learning curve. The presented data indicates, that it needs 60 cases to achieve significantly decreased blood loss, operative time, length of hospital stay, and more margin-negative resections.[5] Of note, these are only the numbers for the surgical staff—analogical numbers are to be expected for the remaining involved disciplines (e.g., intensive care, radiology, endoscopy). However, pancreatic surgery in Norway is centralized and despite volume variations (mean of 17 to 103 procedures) all regions had low mortality rates with no significant disparities.[6] The concept of regional centers, even with a lower caseload, might provide equal outcomes, if the structural terms are fulfilled and the cooperation between the low- and high-volume centers ensures the best possible outcome for advanced and complex cases.

Derogar et al. from Sweden show that the university status (teaching hospital) is related to a decreased mortality after pancreatic surgery.[7] Whether the structural changes are called centralization, regionalization or limitation to university hospitals is insignificant, it implies the same: patients should be treated by a specialized multidisciplinary team and operated by high-volume surgeons to ensure the optimal outcome. The surrogate marker to ensure an optimal treatment might be different throughout Europe, in the end, it describes the same structural quality indicators.

Certainly, factors like the overall resection rate including the different types of vascular resection and the consecutive rate of R0-resections should also be part of the discussion in

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the future, as these factors are markers of the oncological quality, which is as important as the perioperative morbidity and mortality.

We congratulate the authors from Norway on the profound published data, which hopefully will have an impact on the centralization and quality of care of pancreatic surgery in Europe. We are looking forward to future updates of other European countries.

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