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LETTER TO THE EDITOR

Centralization of Pancreatic Surgery in Europe: an Update

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We read with interest the recent systematic review on centralization of pancreatic surgery in Europe.[1] The authors are to be congratulated for the massive work. However, some aspects of the current situation may not have been completely updated, likely due to a time lag between search and publication.[1] Firstly, the claim that countries in Europe have not taken an interest in "centralization" (for lack of a better description) of surgical services is unsubstantiated and to some extent incorrect. For example, regionalization of surgical care has been undertaken across the Nordic countries (also for pancreatic surgery) with different approaches and incentives for regionalization (in part documented for Sweden and Finland in the article). Debates and obstacles for each country are not readily found in the literature, but this does not mean that the processes have not taken place. Also, there is a likely publication bias between countries, typically skewed towards larger and more populous regions. Furthermore, updated results for pancreatic surgery have recently been documented from Norway,[2, 3] Finland,[4] and Sweden.[5] Also, while there is a volume-outcome association, this relationship is still debated—for good reasons. Indeed, in recent large-scale datasets, a clear volume-outcome relationship could not be established for pancreatic cancer in Sweden[6] (despite strong regionalization of care over the past decade). Furthermore, a volume benefit could not be established beyond 6 pancreatic procedures in a nationwide study,[7] in which the best predictor of outcome was "teaching hospital" status. The hospital status likely serves as an indicator for hospitals with a more complex service with several disciplines available to handle complications around the hour, e.g., endoscopy, interventional radiology, intensive care, and sub-discipline surgical services. This is supported by recent Dutch data.[8] Indeed, a recent consensus clearly states that "Centralization should not be based solely on minimal number of procedures, but rather on the multidisciplinary treatment of complex diseases including well-trained specialists available around the clock."[9] In Norway, both pancreatoduodenectomies[2] and distal resections[3] are currently done in only 5 university hospitals with documented equal outcome across 4 regions of diverse population density, geographical distances, variable inhabitant numbers, and absolute number of procedures performed. National perioperative and 90-day mortality rates are comparable to so-called ivory towers. Importantly, the resection rates per inhabitant number (i.e., population-based incidence of resections) are equal across all regions,[2, 3] suggesting an equal service provided to the population. This fact is extremely important when debating outcomes, and particularly for pancreatic cancer. A heavy centralization may boost volumes and outcomes in mega-centers, yet not necessarily ensure that the population at large is offered equal access to—and equal quality of—care. The process of centralization (or regionalization) of care should also take into account the complexity of services provided: is the goal to create a setting for single-organ surgeons who would operate solely on one organ, or a broader HPB service? Should all procedures be offered in every center, such as arterial resections? A wider gastrointestinal surgical oncology spectrum and operative mix of procedures in the alimentary tract, such as gastric, liver, biliary, and pancreatic surgery, are associated with favorable outcomes, even in the lower range volume of specific procedures.[10] Centralization of cancer surgery, and particularly pancreatic cancer, represents a complex roadmap for which surgery is but one of the stakeholders and indicators of quality of care. We thank the authors for addressing this complex topic in an important overview of the European data and appreciate that the knowledge in this field will continue.

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