

Centralization of Highly Complex Low-Volume Procedures in Upper Gastrointestinal Surgery. A Summary of Systematic Reviews and Meta-Analyses

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Key Words

Centralization · Volume · Mortality · Upper GI surgery · Systematic review

Abstract

Centralization of complex upper gastrointestinal (GI) surgery and the effect on postoperative outcomes, especially mortality, has been reported extensively in the literature. In this review the highest level of evidence on the volume outcome relationship is discussed together with other important aspects that can influence postoperative outcomes. Do high-volume centers and surgeons result in better outcomes after surgery for the different upper GI surgical procedures such as esophageal, gastric, liver and pancreatic tumors? Twelve systematic reviews including four meta-analyses described the effect of hospital and/or surgeon volume on mortality. The majority of reviews (>90%) showed a lower mortality in high-volume hospitals. This correlation was also reported when analyzing the different GI procedures separately for esophageal, gastric, hepatic and pancreatic tumors. The vol-

ume discussion has limitations and therefore the relationship between hospital structure and process of care in hospitals and the outcome of surgery has also been acknowledged. Besides surgeon expertise and skills, high-intensity intensive care units, 24/7 availability of interventional radiology, effective prevention and managing of complications and adequate patient selection will influence postoperative outcomes. These forms of hospital structures and process of care might even play a more important role in surgical outcomes.

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Introduction

During the past decade, regionalization, specialization and centralization of highly complex esophageal and hepato-pancreatico-biliary (HPB) surgery has been discussed extensively and led to numerous publications from different parts of the world about the impact of high hospital and surgeon volume [1–7]. Complex surgical procedures are still performed in low-volume (LV) hospi-

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