Modified Appleby Procedure in the Treatment of Pancreatic Neoplasms

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Abstract

Aims: This work aims to review the state of the art regarding the patients who may benefit from resection using the modified Appleby procedure, the pre- and post-operative procedures to increase survival, and the postoperative outcomes.

Materials and Methods: Research was conducted within the PubMed and Embase databases from July 2022 to January 2023, including single or multicenter articles relative to the modified Appleby procedure but comprising a multimodal approach to pancreatic neoplasms and not only the surgical technique, and papers concerning patients over the age of 18 years.

Results: Out of the 373 articles identified and after extracting duplicates, 267 records were accessed for a title and abstract screening. Afterward, by applying the inclusion and exclusion criteria to the remaining articles and conducting a further extensive reading of the remaining articles, 53 papers were included in this review. Secondary terms relevant to this topic were also used, allowing detection of additional research, thus totalizing the 57 publications included.

Discussion: The initial assessment of pancreatic neoplasms' resectability was appraised, as well as the modified Appleby procedure's surgical technical options, its difficulties, morbidity, and mortality. Patients were addressed based on a multimodal strategy to increase survival, therefore neoadjuvant/adjuvant chemotherapy indications and regimens were also discussed.

Conclusion: When applied to borderline resectable and locally advanced pancreatic cancer, the efficacy of the modified Appleby procedure alone is limited, but the combination with neoadjuvant chemotherapy offers the greatest chance of achieving an R0 resection. Many surgical technical options are available, with or without preoperative artery embolization, but the best results published to date were observed when employing robotic surgery with a retroperitoneal-first approach. However, the indication for performing this surgery and all its perioperative components are still a matter of debate.

Keywords: Appleby procedure, pancreatic neoplasms, celiac axis infiltration, preoperative embolization, liver infarction.



Biography

Susana Torres is a senior medical student at Faculty of Medicine, University of Coimbra, Portugal, that by this systematic review – conducted under the supervision of Dr. Pedro Oliveira and Dr. José Guilherme Tralhão, PhD – developed knowledge and deepen the interest on the field of Pancreatic Surgery.

Dr. Pedro Oliveira is a general surgeon working at the Adult Liver Transplant Unit of Coimbra Hospital and University Centre. Dr. José Guilherme Tralhão, head of General Surgery at Coimbra Hospital and University Centre, has published numerous articles to date under the specialty of General Surgery.

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