

Streszczenie w języku angielskim

Surgery, as a form of causal treatment, plays a key role in cases of end-stage organ failure and solid tumors. Contemporary oncologic and transplant surgery is developing dynamically, encompassing an increasingly broad spectrum of indications and a growing number of patients. Improving the effectiveness of surgical treatment, however, requires a simultaneous enhancement of its safety, which is achieved through the identification of risk factors, optimization of surgical techniques, and the implementation and evaluation of new technologies. A particularly important tool in assessing surgical outcomes is the Clavien-Dindo classification, which categorizes complications according to their severity – ranging from minor deviations from standard postoperative care to patient death.

In the context of development of surgical diseases and complications and disease, increasing attention is being paid to the quality of collagen, which determines the mechanical strength of tissues. The first research is a prospective study in which it has been shown that the collagen content in the transverse abdominal fascia may serve as an additional predictive factor for surgical complications in patients undergoing operations for upper abdominal organ tumors or suspected malignancies. Although further research is needed to confirm the clinical utility of this marker, the results suggest a potential role for collagen content and quality as a biomarker of surgical risk.

Reducing the discrepancy between the growing demand for organs and the expanding list of indications is possible through the use of livers from extended criteria donors. However, such grafts are more susceptible to ischemia-reperfusion injury. One strategy to mitigate this risk is the use of hypothermic oxygenated machine perfusion. To date, existing randomized clinical trials have demonstrated the benefits of this technique in high-risk donor groups, although these findings have not been confirmed in the general population of liver recipients. In the second and third studies presented, it was shown that although early outcomes, the incidence of biliary complications, and overall recipient survival did not differ significantly with respect to the use of hypothermic machine perfusion, an improvement in both short-term and long-term outcomes was observed in the subgroup of recipients of high-risk grafts.

Further studies focusing on risk factors and technological innovations are essential to meet the increasing number of surgical indications and improve outcomes in increasingly complex clinical cases.