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How to predict the risk of complication or death after radical cystectomy?

Antonín Brisuda

Department of Urology, Teaching Hospital Motol, 2nd Faculty of Medicine, Charles University, Prague, Czech Republic

Radical cystectomy represents nowadays the gold standard in the treatment of localized muscle-invasive bladder cancer and high risk non-muscle-invasive bladder cancer. On the other hand, the rate of morbidity and mortality remains significant despite the advances in perioperative management and postoperative care in recent years [1]. This is even more expressed with the fact that firstly, we talk about a disease affecting eldery people and secondly, the population is aging. Comorbities, and thus the risk of a complication or death, come with age that implies consideration of bladder sparing treatment like radiochemotherapy or partial cystectomy in these patients [2]. EAU guidelines recommend using the Charleson Comorbidity Index as an independent prognostic factor for perioperative mortality [2]. POSSUM and P-POSSUM provide tools for risk adjustment to predict morbidity and mortality which were developed and validated within the general surgical population. A retrospective multicenter study from Japan [3] validated both predictors on 280 patients operated on within a period of 9 years. The authors came to somewhat non-convincing results. POSSUM significantly underestimated morbidity and overestimated mortality. Only P-POSSUM correctly predicted mortality, though the AUC was not that impressive (0.518). Nontheless, the authors concluded that POSSUM underestimated mortality in low-risk patients. This was explained, besides other things, by the fact that most of the low-risk patiens had diversion different to ureterocutaneostomy, which led to longer operative times and consequently to more complications and deaths. The main limitations of the study are the retrospective data collection, short follow-up of 30 days, and obvious selection bias (a strikingly high number of ureterocutaneostomies implicating a co-morbid population with signifiant risk of morbidity and mortality). However, in order to choose the right treatment for an individual patient with advanced bladder cancer, validation of existing predictors or the investigation of new tools becomes more and more important. To get a global view on the matter, not only refferal centers with multiple operations done within a year must take part. The most important factors are a prospective standardized approach to data collection, developing appropriate patient databases and registers and adequate follow-up [4].

References

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Corresponding author
Antonín Brisuda, M.D., FEBU
abrisuda@seznam.cz

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