Cytoreductive prostatectomy: what is the evidence? A systematic review.


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Abstract

INTRODUCTION: Cytoreductive prostatectomy is an experimental surgical approach to metastatic prostate cancer (mPCa), with the scope of improving local symptoms and potentially ameliorate oncologic outcomes. Aim of the current systematic review is to analyze available evidence to support this approach and explore published data a future trial on cytoreductive prostatectomy.

EVIDENCE ACQUISITION: A systematic review was conducted searching all relevant studies published in PubMed, EMBASE, Cochrane Library, CINAHL, Google Scholar and Ovid database until August 1, 2018. A search was performed including the combination of following words: "cytoreductive" AND "prostatectomy" AND "prostate" AND "cancer"). Of the 49 initial papers identified, 28 were excluded after screening by the authors, leaving 21 articles eligible for the review.

EVIDENCE SYNTHESIS: In vitro and in vivo models support the concept of removing the primary tumor, considered a "sanctuary site", in order to reduce the metastatic potential of prostate cancer. Large retrospective population studies have reported improved oncologic outcomes for men undergoing cytoreductive prostatectomy, though such results are limited by the retrospective design and major selection biases. Little evidence from well designed prospective trials is available, yet a net improvement of overall survival has not been reported. Nonetheless, most
studies reported a reduction of local complications after cytoreductive prostatectomy (<10%) compared to best systemic therapy (25-30%). Prospective randomized trials are underway: their results will help elucidate the true impact of cytoreductive prostatectomy on oncologic outcomes of mPCa.

**CONCLUSIONS:** Although supported from a biological point of view and albeit encouraging results of population-based studies, cytoreductive remains to date experimental. A true benefit on overall survival of mPCa is not supported by current evidence. The results of prospective trials are eagerly awaited.