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Original Article

Surgical and oncological short-term outcomes of prone extralevator abdominoperineal excision for low rectal cancer

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ABSTRACT

Introduction: In recent years, a standardized surgical approach for low rectal cancer was proposed and adopted in many centres. The extralevator abdominoperineal excision introduce an extensive resection of the pelvic floor and demonstrated superiority if the procedure is done in the prone jack-knife position, especially regarding intraoperative perforation and circumferential resections margins. The aim of this study is to evaluate the surgical and oncological short-term outcomes of prone extralevator abdominoperineal excision.

Methods: All patients registered in our institution from January 2003 to January 2015 who underwent abdominoperineal resection or prone extralevator abdominoperineal excision for low rectal cancer after preoperative chemoradiation were retrospectively included from prospective maintained data base and were compared regarding surgical and oncological outcomes.

Results: Eighty-nine patients underwent curative intent resections. Abdominoperineal resection was performed in 67 patients and prone extralevator abdominoperineal excision in 22 patients. There were no statistical significant differences between groups regarding pathological stage, median number of harvested lymph node, intraoperative perforation, circumferential resections margins involvement and recurrence rates. Surgical outcomes were statistically different between groups. Twenty-six patients (29%) developed perineal complications, 21% of the abdominoperineal resection patients and 55% of the prone extralevator abdominoperineal excision ($p < 0.001$). Most of these complications were due to delayed perineal wound healing (12.4%), and wound abscesses (4.5%). However, the readmission rate and median length of hospital stay was higher in the abdominoperineal resection group ($p < 0.001$).

Conclusion: Prone extralevator abdominoperineal excision is comparable to standard abdominoperineal resection. It was associated to a decrease in length of hospital stay and readmission rate, although more perineal complications occurred. We cannot recommend

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it as a standard technique for all low rectal cancer. Notwithstanding, prone extralevator abdominoperineal excision can be considered a more radical approach when there is sphincter complex or levators muscles invasion.

Resultados cirúrgicos e oncológicos no curto prazo para a excisão abdominoperineal extra-levantador em pronação para câncer retal baixo

Palavras-chave:
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RESUMO

Introdução: Nos últimos anos, foi proposta e adotada em muitos centros uma abordagem cirúrgica padronizada para o câncer retal baixo (CRB). A excisão abdominoperineal extra-levantador (ELAPE) introduz uma ampla ressecção do assoalho pélvico, tendo demonstrado superioridade, se ELAPE for realizada na posição de canivete (carpado) em pronação, especialmente no que tange à perfuração intraoperatória (PIO) e às margens das ressecções circunferenciais (MRCs). O objetivo desse estudo é avaliar os resultados cirúrgicos e oncológicos no curto prazo da excisão abdominoperineal extra-levantador *em pronação* (pELAPE).

Métodos: Todos os pacientes registrados em nossa instituição desde janeiro de 2003 até janeiro de 2015 e tratados com ressecção abdominoperineal (RAP) ou com pELAPE para CRB em seguida à quimiorradiação pré-operatória foram retrospectivamente incluídos a partir da base de dados prospectiva mantida, tendo sido comparados com relação aos resultados cirúrgicos e oncológicos.

Resultados: Oitenta e nove pacientes foram tratados com ressecção com intenção curativa. Sessenta e sete pacientes foram tratados com RAP e 22 com pELAPE. Não foi observada diferença estatística significativa entre grupos com relação ao estágio patológico, número mediano de linfonodos coletados, PIO, envolvimento das MRCs e percentuais de recorrência. Os resultados cirúrgicos foram estatisticamente diferentes entre os grupos. Vinte e seis pacientes (29%) evoluíram para complicações perineais: 21% dos pacientes tratados com RAP e 55% dos tratados com pELAPE ($p < 0,001$). Quase todas essas complicações foram decorrentes do retardo na cicatrização da ferida perineal (12,4%) e de abscessos na ferida (4,5%). Mas o percentual de reinternação e a duração mediana do tempo de internação hospitalar (TIH) foram maiores no grupo tratado com RAP ($p < 0,001$).

Conclusão: pELAPE é comparável à RAP de rotina. O procedimento foi associado à redução no TIH e no percentual de reinternação, embora tenha ocorrido maior número de complicações perineais. Não recomendamos pELAPE como técnica padrão para todos os casos de CRB. Apesar disso, pELAPE pode ser considerada uma abordagem mais radical, como nos casos em que esteja presente uma complexa invasão esfinctérica, ou dos músculos levantadores.

Introduction

Since 1908, when Milles published his paper about better oncological results achieved with his new technique of abdominoperineal resection (APR) for low rectal cancer (LRC), a great effort has been made to improve treatments outcomes of this ravishing disease.[1]

The introduction of total mesorectal excision (TME),[2] autonomic nerve preservation[3] and preoperative chemoradiotherapy (CRT)[4] was essential to improve surgical outcomes and decrease local recurrence rate while preserving urinary and sexual functions.[5] Standardized surgery seems to enhance the overall survival of patients with RC.[6] However, those improvements observed in TME for low anterior resection (LAR) did not benefit the TME for APR at the same extent, despite the increased morbidity of this technique. Patients submitted to APR often had higher local recurrence rate, increased positive circumferential resection margin (CRM) and poorer survival compared to LAR.[7,8]

When the tumour is located further down in the pelvis, closer to the anorectal ring, the surgical margins are at special risk during conventional APR. Moreover, tumours located at the anterior rectal wall, where the mesorectal fat is narrow, are also at great risk of positive CRM. For these reasons, tumours located in these critical areas have higher rate of positive CRM.[7] The increased rate of positive CRM for APR compared to LAR is still a matter of debate, although it can be justified by the lack of clear standardized surgical technique