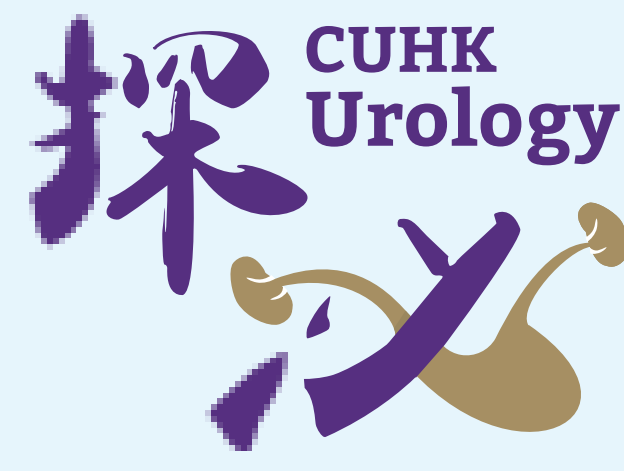




香港泌尿外科學會
Hong Kong Urological Association



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Impact of perinephric toxic fat on surgical outcomes of partial nephrectomy for renal cell carcinoma

Brian CF Kwok, Brian WH Siu, Emmy SF Tang, Athena YH Lee, Steven CH Leung, Ivan CH Ko, Chris HM Wong, Francis CH Wong, Steffi KK Yuen, Joseph KM Li, Mandy HM Tam, KL Lo, Chi Kwok Chan, Wilson HC Chan, Samuel CH Yee, Peter KF Chiu, Jeremy YC Teoh, Chi-fai Ng, David KW Leung
Department of Surgery, Prince of Wales Hospital

Introduction

The presence of perinephric toxic fat would affect the difficulty of the dissection and thus the perioperative outcomes according to previous studies. This study aims to evaluate the impact of perinephric toxic fat on the post-operative complications and identify risk factors that could possibly affect surgical outcomes.

Patients & Methods:

This retrospective analysis of a prospectively collected database reviewed 281 patients with renal cell carcinoma (RCC) who underwent partial nephrectomy. Patient demographics, pre-operative investigations, intra-operative findings, and post-operative complications were analyzed statistically.

Results:

The average operation time was 195 minutes with a median ischemic time of 28 minutes. A positive margin was found in 3.56% of patients upon histopathological review. A median of 5 days hospitalization post-operatively with 22.78% of them reported to have immediate complications. Only 5.69% of patients required readmission within 30 days of operation due to complications.

Upon follow-ups in 3 and 6 months, renal function tests were performed and compared with that pre-operatively. The eGFR reduced by 12.05% in 3 months (9.84%-14.26%) and 12.45% (10.66%-14.28%) in 6 months.

The perinephric fat thickness does not affect the ischemic time ($P=0.126$) but reduced the operation duration ($P<0.001$). Both a lower Charlson comorbidity index and a better baseline renal function would reduce post-operative complications ($P<0.05$). Patients who had a minimally invasive approach would have a longer operation duration but a shorter ischemic time ($P<0.002$).

Conclusion:

Perinephric fat thickness shows a statistically significant impact on the operation time but does not affect the post-operative complication rates. A lower pre-operative RENAL score correlates to a shorter ischemic time. A better baseline renal function would reduce the complication rate.