

1. Is Cryotherapy a genuine rival to Robotic Assisted Partial Nephrectomy in the management of suspected renal malignancy? A Systematic Review and Meta-Analysis

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Introduction:

A plethora of options are available in the management of renal masses suspected to be malignant. We aimed to compare oncological outcomes, morbidity, renal function and peri-operative outcomes between Cryotherapy (CA) and Robotic Assisted Partial Nephrectomy (RAPN) for renal masses.

Methods:

The systematic review was performed according to the Cochrane PRISMA guidelines. All randomised trials and observational studies comparing Laparoscopic (LCA) and Percutaneous Cryotherapy (PCA) with RAPN were considered. The GRADE approach to rate the quality of evidence. Mantel-Haenszel Chi-square test was used for continuous data and expressed as the mean difference (MD) with 95% CI and for dichotomous data, an Inverse Variance was used and expressed as odds ratio (OR) or risk difference (RD) with 95% CI.

Results:

241 potential publications were identified and after thorough evaluation, 4 were included for evaluation. A total of 581 and 521 patients underwent CA and RAPN respectively. There was a statistically significant difference in recurrence rates (11.5% vs. 0%, $p < 0.00001$) between the two techniques favouring the RAPN cohort but there was no statistically significant difference in overall complications (including sub-analysis of Clavien > 3a) rates between the two techniques ($p = 0.22$). There was no difference between survival and mortality outcomes between the two cohorts. There was a general trend towards better renal function preservation with the CA cohort.

Conclusion:

This meta-analysis emphasises that RAPN has significantly lower recurrences rates when compared to CA. It also suggests that RAPN achieves superior oncological outcomes without compromising on morbidity when compared to CA.

2. Are emergency admissions with visible haematuria waiting longer for diagnostics than those referred on the suspected urological cancer pathway?

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Background

There is evidence that prompt treatment of solid bladder cancer influences outcome. NICE guidelines recommend that patients seen in primary care with a suspected urological cancer should be referred to a specialist and undergo investigation within a 2-week time frame. However, the diagnostic pathway may differ for patients requiring urgent admission for gross visible haematuria (GVH).

Aim

Primary outcome measure - time to flexible cystoscopy

Secondary outcome measures - time to TURBT and histological stage

Method

We performed a retrospective case note review of patients undergoing investigations for haematuria over 12 months. Inclusion criteria were those presenting as an emergency admission with GVH and those referred from primary care with VH on a suspected urological cancer pathway. Exclusion criteria were previous diagnosis of bladder cancer or other known cause of GVH.

Data collected included patient demographics, time from referral to flexible cystoscopy/TURBT and histopathological data.

Results

We identified 431 patients in total. 389 were referred on a suspected urological cancer pathway with a mean age of 66.7(range 27-92) yrs and mean time to flexible cystoscopy of 13.6(range 3-62) days, and 42 presented as an emergency admission with VH with a mean age of 75.4(range 34-95) yrs and a mean time to flexible cystoscopy of 33.5(range 5-68) days $p < 0.0001$.

Mean time to TURBT was also found to be longer in the emergency group, 51.2(range 23-66) days compared to 39.2(range 14-73) days for patients on the pathway demonstrating a trend towards delay.

All of the bladder tumours identified in the patients presenting as an emergency were high-grade urothelial tumours.

Conclusion

Patients presenting as an emergency with GVH are waiting longer for diagnostics than those referred on a suspected urological cancer pathway. This results in a delay to definitive diagnosis and treatment in a group of patients with potentially high-grade, high-risk tumours.

3. Prognostic effect of cytoreductive nephrectomy in synchronous metastatic renal cell carcinoma: a comparative study using inverse probability of treatment weighting

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Purpose:

To test the hypothesis that cytoreductive nephrectomy (CN) improves overall survival (OS) of patients with synchronous metastatic renal cell carcinoma (mRCC), who subsequently receive targeted therapies (TT).

Methods:

We identified 261 patients who received TT for synchronous mRCC with or without prior CN. To achieve balance in baseline characteristics between groups, we used the inverse probability of treatment weighting (IPTW) method. We conducted OS analyses, including IPTW-adjusted Kaplan-Meier curves, Cox regression models, interaction term, landmark and sensitivity analyses.

Results:

Of the 261 patients, 97 (37.2%) received CN and 164 (62.8%) did not. IPTW-adjusted analyses showed a statistically significant OS benefit for patients treated with CN (HR=0.63, 95% CI 0.46-0.83, p=0.0015). While there was no statistically significant difference in OS at 3 months (p=0.97), 6 months (p=0.67), and 12 months (p=0.11) from diagnosis, a benefit for the CN group was noted at 18 months (p=0.005) and 24 months (p=0.004). On interaction term analyses, the beneficial effect of CN increased with better performance status (p=0.06), in women (p=0.03), and in patients with thrombocytosis (p=0.01).

Conclusions:

IPTW-adjusted analysis of our patient cohort suggests that CN improves OS of patients with synchronous mRCC treated with TT. On the whole, the survival difference appears after 12 months. Those with a good performance status, women and patients with thrombocytosis may particularly benefit from CN, and these subgroups warrant further investigation in prospective trials.

4. Toxicity of radiotherapy following radical prostatectomy: A national population-based study evaluating the impact of modality, hypofractionation and timing.

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Introduction

There is evidence supporting the role of radiotherapy (RT) after radical prostatectomy (RP) in the management of high-risk prostate cancer. However, concerns remain about the associated treatment-related toxicity, patient inconvenience and costs.

Aim

To evaluate the impact of modality and timing of post-prostatectomy RT on severe genitourinary (GU) and gastrointestinal (GI) toxicity.

Methods

National population-based study of all patients treated with post-prostatectomy radiotherapy (RT) between January 1 2010 and December 31 2013 in England. A validated coding system captured severe toxicity (\geq Grade 3 according to the NCI CTCAE criteria) following RT. A competing-risks regression analysis was used to estimate hazard ratios (HR) comparing severe late toxicity between the following groups: (i) 3D-conformal radiotherapy (3D-CRT) vs Intensity-modulated radiotherapy (IMRT), (ii) RT within 6 months of RP vs RT more than 6 months after RP.

Results

There was no difference in severe GI toxicity between patients who received IMRT and 3D-CRT (3D-CRT: 5.8 events/100 person years; IMRT: 5.5 events/100 person years; adjusted HR: 0.85, 95% CI: 0.63-1.13; $p=0.26$). The rate of severe GU toxicity was lower with IMRT but this was not statistically significant (3D-CRT: 5.4 events/100 person years; IMRT: 3.8 events/100 person years; adjusted HR: 0.76, 95% CI: 0.55-1.03; $p=0.08$). Men who started RT more than 6 months after RP were less likely to experience GU toxicity than those who started RT within 6 months (adjusted HR: 0.72, 95% CI: 0.59-0.89; $p<0.01$).

Conclusion

The use of IMRT compared to 3D-CRT is not associated with a statistically significant reduction in rates of severe GU and GI toxicity in the post-prostatectomy setting. Starting RT at least 6 months after surgery reduced GU toxicity. Given these findings, we would caution the transition to IMRT in the post-prostatectomy setting and recommend waiting at least 6 months before the start of RT following RP.