Reviewer's report

Title: Prognostic value of radical cystoprostatectomy in men with bladder cancer infiltrating prostate versus co-existing prostate cancer: a research study.

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Reviewer: Christian Thomas

Reviewer's report:

Comments

In the present study, the authors compared the oncologic outcome of two different coexisting neoplasms in the prostate of patients undergoing radical cystoprostatectomy (CPx) for invasive urothelial cell carcinoma (UCC). Of 320 CPx specimens, 52 had UCC infiltrating the prostate (UCC pT4a) and 21 had concomitant PCa. CSS in patients with pT4a UCC was significantly lower compared to patients with concomitant PCa, which were clinically insignificant in the majority. The authors conclude that in patients with invasive UCC the coexistence of additional carcinoma (UCC or PCa) in the prostate is high and therefore prostate sparing cystectomy bears a high risk for recurrence of cancer. Furthermore, they state that UCC infiltrating the prostate significantly worsens the oncologic outcome compared to concomitant PCa.

The topic is of clinical relevance, as UCC patients with a desire to preserve erectile function are potential candidates for nerve sparing CPx or prostate sparing cystectomy. However several concerns arise reading this manuscript that need to be revised:

Major compulsory revisions:

1. The classification pT1 (a or b) is typically used for incidental PCa in TUR-P specimen, not for staging of PCa in CPx specimen. Please revise pathologic staging for PCa.

2. Surgical margin status is not mentioned. However, especially in a manuscript focused on oncologic outcome, this information is of major importance. Please add this information and its role regarding to oncologic outcome.

3. Was radical urethrectomy performed in the presence of pT4a UCC? Were intraoperative frozen sections obtained for this decision? Did patients undergo adjuvant chemotherapy in the presence of lymph node metastases or advanced stage?

4. The authors mentioned in the discussion part that each patient underwent cystoscopy prior radical cystoprostatectomy. In how many of the 52 pT4a UCC patients prostatic involvement was known before surgery? How did this information influence the choice for urethrectomy?

5. The authors conclude that bladder cancer infiltrating the prostate worsens significantly the oncologic outcome. Interestingly, just 3.8% of these patients had
local recurrence. Looking at the data, it comes to my mind that the rate of 50% lymph node metastases has a much higher impact on progression of cancer and cancer-specific death than the coexistence of neoplasm in the prostate. How do the authors explain that UCC infiltrating the prostate worsens the oncologic outcome in already metastasized patients? This question could be clarified by performing a Kaplan-Meier survival curve for the following groups:

a) PCa +, pN0
b) UCC pT4a+, pN0
c) PCa+, pN1
d) UCC pT4a+, pN1

This setting would describe the real impact of UCC infiltrating the prostate on oncologic outcome.

6. Regarding conclusions 2.: What preoperative diagnostics do the authors recommend? What are the special indications for prostate sparing cystectomy?

Minor essential revisions:

1. How was clinically (in)significant or clinically (non)relevant PCa defined in this study? Please describe your definition in Material and Methods.

2. How was the prostate histopathologically examined (slices, thickness, just base and apex or complete prostate)? This is important because incidence of concomitant PCa increases with amount of PCa tissue examined in routine histopathological evaluation of cystoprostatectomy specimen.

3. Please add units to the x-axis of figure 1 and limit the scale to 3000.

4. In table 2 ‘death’ is compared by chi-square test between both groups. However, significant difference between both groups regarding to cancer specific survival has already been shown by Kaplan-Meier survival analysis.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests