Salvage prostate bed radiotherapy after radical prostatectomy: Patterns of improved biochemical progression free survival

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BACKGROUND

• Radical prostatectomy (RP) is one of the treatment options for patients with localised prostate cancer.1,2
• Approximately one third of these patients will have biochemical recurrence signalled by a rise in Prostate Specific Antigen (PSA).3,4
• The risk of biochemical relapse is higher in patients with adverse histological features eg, positive margins and seminal vesicle involvement.4
• Post-RP salvage radiotherapy (SRT) to the prostate bed improves biochemical progression free survival (bPFS).
• In this study, we sought to evaluate the efficacy of SRT and elucidate predictors of bPFS.

METHODS

• Patients who received SRT from January 2011 to December 2015 were retrospectively analysed.
• All patients had prostate bed radiotherapy (66Gy/33# over 6.5wks).
• Hormone therapy (HT), when used, was for a short duration (3-6 months).
• Biochemical failure after SRT was defined as serum PSA rising above the post-treatment nadir to a level of ≥0.2ng/mL, or by the initiation of salvage HT after completion of SRT.
• The bPFS was calculated as the time from start of SRT until date of detectable PSA and analysed by Kaplan-Meier estimates and log-rank test.

RESULTS

• 111 patients received SRT over the 5 year period
• Median age was 74.5 years (52.8-84.8)
• The majority (66%) of the patients who underwent SRT had high risk prostate cancer (Figure 1).
• The overall rate of bPFS (start of RT until PSA relapse) was 60.4% (67/111)
• Median follow-up was 46 months (range: 6-80).
• 46% (51/111) of patients received concomitant HT.
• The median pre-SRT PSA was 0.4 ng/mL (range, 0.07 to 4.9).
• bPFS was 65% for those with a pre-SRT PSA level of ≥0.5 ng/mL (n = 74), 53.6% for those with a PSA of >0.5 to ≤1.5 (n = 28), 44.4% for those with a PSA of >1.5 (n = 9); (p=0.33) Table 1, Figure 2.

Table 1: Rates of PSA rise after SRT and bPFS.

<table>
<thead>
<tr>
<th>Pre-treatment PSA (ng/mL)</th>
<th>Total number of patients</th>
<th>Patients with PSA rise after SRT</th>
<th>Median biochemical progression free survival (months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤0.5</td>
<td>74</td>
<td>26 (35%)</td>
<td>31</td>
</tr>
<tr>
<td>0.51-1.5</td>
<td>28</td>
<td>13 (46.4%)</td>
<td>20.3</td>
</tr>
<tr>
<td>≥1.6</td>
<td>9</td>
<td>5 (55.6%)</td>
<td>24.2</td>
</tr>
</tbody>
</table>

Figure 1: Patient Demographics

Figure 2: Survival curves based on pre-SRT PSA levels, time interval between RP&SRT and interval between detectable PSA and start of SRT.

CONCLUSIONS

• There was no significant difference in bPFS rates for pre-SRT PSA of ≤0.2 compared to PSA ≥0.5 ng/mL.
• Significantly improved bPFS rates were seen with an interval of >6m from detectable PSA to start of SRT (69% vs. 46.5%; p=0.026; Figure 2)
• A trend towards better bPFS rates was seen when the time interval was >24m from RP to first detectable PSA (73% vs. 53%; p=0.08).
• bPFS was similar in the proportion of patients (46%) who had a short course of HT compared to those (54%) who did not have HT.

REFERENCES