

Evaluation of the impact of adjuvant versus salvage radiotherapy in the recurrence-free survival in post-radical prostatectomy patients with positive surgical margins

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Introduction & Objectives: Positive surgical margins are associated with bad prognostic outcomes in patients submitted to radical prostatectomy. These patients may be submitted to adjuvant radiotherapy (RT) (up to 6 months post-op) or active surveillance with PSA monitoring and salvage radiotherapy (SRT) upon biochemical recurrence. The adequate time for radiotherapy remains uncertain, in order to avoid the side effects of this modality. Evaluate the difference in recurrence-free survival between patients with positive surgical margins submitted to adjuvant RT and those submitted to active surveillance and SRT upon biochemical recurrence.

Materials & Methods: Retrospective analysis of all patients submitted to radical prostatectomy in Centro Hospitalar de Lisboa Ocidental, E.P.E. - Hospital Egas Moniz between 2009 and 2014 with positive surgical margins. The sample was characterized according to patient and tumour data, namely initial PSA, staging and Gleason score of the removed gland. The SPSS IBM statistic software was used for evaluation of recurrence-free survival of patients submitted to adjuvant RT versus active surveillance. Additionally, the recurrence-free survival between patients submitted to adjuvant RT and SRT was compared.

Results: From 244 patients submitted to radical prostatectomy, between 2009 and 2014, 75 had positive surgical margins (30.7%). From this total, 10 patients lost follow-up, thus being removed from the study. From the remaining 65 patients, 14 (21.5%) were submitted to adjuvant radiotherapy and 51 (78.5%) were kept in biochemical surveillance. From these 65 patients, 18 (35.3%) were submitted to SRT. With a median follow-up of 87 months, the recurrence-free survival in adjuvant RT patients was 110.3 months (95%CI: 95.0-125.6) and 89.5 months (95%CI: 6.5-76.9) in active surveillance patients ($p>0.05$). There were no differences in the overall survival of these patients. In patients with biochemical recurrence ($n=32$), the mean recurrence-free survival of those submitted to adjuvant RT ($n=14$) was 107.7 months (95%CI: 92.9-122.6) and 30.9 months (95%CI: 19.0-42.7) in those submitted to SRT ($n=18$).

Conclusions: There's a trend towards longer recurrence-free survival in patients submitted to adjuvant radiotherapy, in comparison to those on active surveillance, although statistically not significant.

There were no differences in the overall survival of these patients, which means that delaying RT is not prejudicial in terms of overall survival. At the end of the study, there were 33 patients (64.7%) in biochemical surveillance without the need to adjuvant RT, which means possible overtreatment if they were initially submitted to adjuvant RT. Specific information, such as the Gleason score, initial PSA or post-surgical staging may help identify which patients with positive surgical margins should be submitted to adjuvant RT.