



Resource Centre

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Early or delayed radiotherapy in high risk prostate cancer patients treated with radical prostatectomy? Long term results of a multicenter prospective study

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Introduction & Objectives

This multicenter prospective study was carried out by the postoperative subgroup of the AIRO (Associazione Italiana Radioterapia Oncologica) Working Group on Prostate Radiotherapy (RT) to evaluate the impact of Adjuvant RT (PORT) or Salvage RT (SART) in high risk prostate cancer patients (pts) treated with radical prostatectomy (RP).

Material & Methods

Between January 2002 and December 2003, data of 440 pts (mean age: 65 years, range 42-81) treated with PORT or SART were collected by 14 Italian RT Departments. Of the 411 pts available for the 10 year analysis, 284 (69.1%) received PORT (started ≤ 6 months after RP) and 127 underwent SART because of increasing PSA level after having been undetectable or persistently elevated PSA (> 6 months after RP). Gleason Score (GS) ≥ 7 and positive surgical margins (SM+) have been shown by 69% pts and 74.5% respectively; 76.8% presented locally advanced disease (pT3-4), 27 (6.7%) positive pelvic nodes; 40.2% pts revealed seminal vesicles invasion (SVI). All pts received RT to the prostatic fossa (mean dose of 67.8 Gy, range: 60-76) while whole pelvis RT was delivered to 111 pts (27%). Androgen deprivation therapy (ADT) was prescribed to 47,3% pts. Among 127 SART pts, pre-RT PSA level was 1 ng/mL or less in 56 pts (44,1%).

Results

After a median follow up of 108 months, 259 pts are disease free and 331 are still alive. 10 year (10-y) overall survival and cancer specific survival are 75.9% and 89.9% respectively. Ten year biochemical control (10-y BC) rate is 57.8%. On univariate analysis, PORT versus SART, SVI and GS ≥ 7 significantly influenced 10-y BC rate: 62.7% in PORT group versus 45.6% in SART one ($p = 0.003$), 56.9% in pts with SVI versus 65.6% pts without SVI ($p < 0.001$), 52.5% if GS ≥ 7 and 69.8% if GS < 7 ($p = 0.003$). SM+, locally advanced disease (pT3-4) and pathological N stages, ADT or pelvic RT had no impact on biochemical recurrence rate. SVI and PORT versus SART were variables associated with BC on multivariate analysis. Only pre-RT PSA level significantly influenced disease free survival in SART subgroup analysis: when the pre-RT PSA was 1 ng/mL or less, 59.8% pts were disease free at 10-y compared with 33.5% of those treated at PSA levels greater than 1 ng/mL ($p = 0.017$).

Conclusions

Pts treated with PORT and pts without SVI show better 10-y BC rates. Postoperative RT delivered in high risk prostate cancer patients can reduce the impact of other common unfavourable prognostic factors (pT stage, positive surgical margins). Early referral for SART offers better disease control after radical prostatectomy. This prospective multicenter study confirms outcomes of other series.

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