

# 62 - OUTCOMES OF DIFFERENT PATTERN OF SEMINAL VESICLE INVASION IN PATIENTS TREATED WITH RADICAL PROSTATECTOMY



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**Introduction:** Ohori classification describes different patterns of invasion of seminal vesicle (SV) by prostate cancer: type 1 and 2 are continuous spread, respectively intraprostatic and extraprostatic, type 3 is a discontinuous metastatic invasion. Our objective is to evaluate the impact of Ohori patterns of invasion in a selected population of patients who underwent radical prostatectomy (RP).

**Patients and Methods:** We evaluated 67 patients who underwent RP between 2007 and 2013 with a pT3bN0cM0 prostate cancer. The type of seminal vesicle invasion mechanism was evaluated by a dedicated uro-pathologist. We analyzed the biochemical recurrence (BCR) in each kind of pattern of seminal vesicle invasion. We divided patients according adjuvant radiotherapy (ART) or neo-adjuvant hormonal therapy. We considered for each patient age, PSA at diagnosis, Gleason Score, global percentage of cancer, status of surgical margins, time of follow-up and incidence of BCR.

**Results:** Mean follow-up was 104 (50-170) months. Mean age was 66.7 (55-77) years. In all the population 23 (33.8%) patients experienced BCR, with a mean time of 26,7 months after radical prostatectomy.

Ohori 1 was found in 4 (6%) patients; no one experienced BCR. Ohori 2 was found in 50 (74.6%) patients; 15 (30%) experienced BCR. Ohori 3 was found in 13 (19.4%) patients; 8 (61.5%) experienced BCR.

The bivariate analysis showed a statistically significant correlation ( $p=0.010$ ) between the BCR and the type of SV invasion with an increased risk from type 1 to type 3 (OR=31.6%). BCR occurred in 12 of 33 (36%) patients who underwent adjuvant radiotherapy and in 11 of 34 (32%) who did not undergo adjuvant radiotherapy. The linear regression showed that the risk of BCR is strongly correlated with Ohori type 3 (OR 49%,  $p=0.008$ ) only in patients who did not undergo ART ( $p=0.019$ ). (Figure 1.A) In patients receiving ART, the difference in terms of BCR was very close between type 2 and 3 with decreasing cases of BCR in patient with type 3 Ohori's. (Figure 1.B) BCR occurred in 8 of 17 patients with positive surgical margins (47%) and in 15 of 50 patients without (32%), without any correlation between BCR and each type of invasion. The statistical analysis did not show a correlation between Gleason Score and BCR. Furthermore, neoadjuvant therapy did not lead to changes in the type of Ohori and BCR, regardless of radiotherapy.

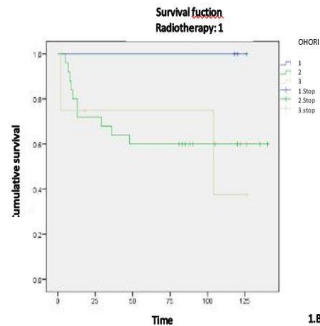
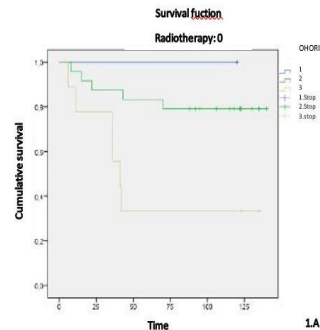


Figure 1.A Survival curve in patients according to the type of Ohori. 1.B Survival curve in patients treated with radiotherapy according to the type of Ohori.

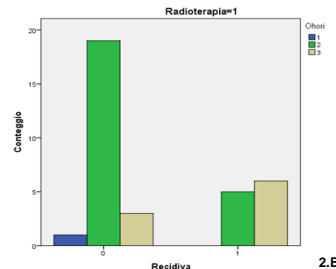
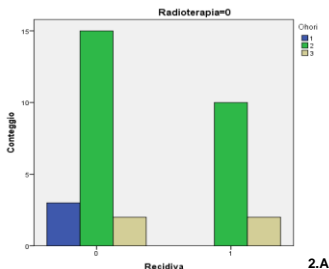


Figure 2.A Histogram of recurrence rate classified by ohori in patients treated with radiotherapy. 2.B Not treated.

**Conclusion:** Biochemical recurrence rate is directly correlated with the pattern of Ohori invasion in patients who underwent radical prostatectomy for pT3bN0cM0 prostate cancer. In type 1 Ohori invasion, adjuvant radiotherapy does not influence cancer-free survival. Radiotherapy do not change BCR of all Ohori II patients, while decreases the risk of BCR in patients with Ohori III. In patients with Ohori 3 invasion adjuvant radiotherapy is strongly indicated.