

# Oncological outcomes of Salvage Radical Prostatectomy in a contemporary, multicentre series of 395 cases.

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## Introduction and Objectives

In men with biochemical recurrence (BCR) after primary treatment, salvage radical prostatectomy (sRP) can represent a valid therapeutic option with curative intent. Since current evidence mainly relies on outdated records, including patients treated 50 years ago, our aim was to assess the oncological outcomes in a large, contemporary series of sRP

## Material and Methods

Between 2000 and 2016, 615 men with BCR underwent sRP at 18 Tertiary referral centres. We retrospectively collected pre-, intra and post-procedural clinical and pathological data, assessing erectile function (EF) and urinary continence (Con) before sRP, at 6 and/or 12 months. A follow up <6 months or unavailability of the data were exclusion criteria. Continuous variables were compared using Wilcoxon-Mann-Whitney test; Chi-square or Fisher's exact tests were adopted for differences in categorical variables.

Table 1. Baseline clinical and pathological features

Population (IQR)		1st line treatment	
Pre-sRP PSA (mg/dL)	6.36 (2.5-7.3)	RT	66.84 (264)
Age at sRP' (ys)	66.3 (61.8-70.5)	BT	22.28 (88)
Follow Up' (ys)	3 (1.7-4.9)	Cryotherapy	3.54 (14)
Pathological Gleason Score at sRP, % (n)		HIFU	3.04 (12)
≤6	8.57 (30)	Other	3.29 (13)
7	48.0 (168)	RT dose (Gy)	72 (66-77.4)
≥8	43.43 (152)	Hormonal treatment	37.1 (143)
pT, % (n)		No	63.93 (218)
0	1.02 (4)	Neoadjuvant to first line treatment	8.61 (34)
2	44.27 (174)	Adjuvant to first line treatment	17.47 (69)
3	54.20 (215)	Salvage	5.06 (20)
4	0.51 (2)		
pN+	18.45 (62)		

## Results

We included 395 patients: 66.8% had been primarily treated with radiotherapy, 3.5% with cryotherapy, 3% with HIFU, 22.3% with brachytherapy and 3.3% with other primary treatments. Age pre-sRP and mean PSA were 66.3 (IQ 61.8-70.5) ys and 6.36 (IQ 2.5-7.3) ng/mL, respectively. Before sRP, no extra-nodal involvement was present, 143 men (37.1%) were on HT whereas 15 (3.8%) had castration resistant prostate cancer (CRPC). Mean ASA score was 2.17 ±0.78. Six patients (1.74%) underwent a super-extended lymphadenectomy, including retroperitoneal nodes, whilst a nerve sparing procedure was performed in 44 cases (14.1%). Mean operating time was 221.159 (IQ 150-250) min, with a mean blood loss of 439.979 (150-500) mL. At definitive histology, GS was ≥8 in 152 patients (43.43%) whereas 215 (54.7%) presented local extra-prostatic extension (T stage≥3) and 62 (18.73%) had positive nodes. About half of the cases (50.9%, n=165) had positive surgical margins. Forty patients (10.1%) experienced at least one major (Clavien ≥3) complication. Twelve months after surgery, only 8.1% had spontaneous or PDE-5 erections and 25.9% used ≥3pads/day (severely incontinent). After a median follow up of 3 (IQ 1.7-4.9) ys, 150, BCR was present in 48.39% of patients (n=150) and 20.47% had CRPC. Overall and cancer specific survival at 5 years were 95.02% and 96.2%, respectively.

## Conclusions

Promising oncological outcomes are yielded by sRP, in short to medium term. Nevertheless, major complications and positive surgical margins are relatively frequent; rates of BCR and severe incontinence remain remarkable. Erectile function is poorly preserved. Prospective, long-term series are needed to confirm our findings.

Figure 1. CSS, OS, CRPC and BCR (%)

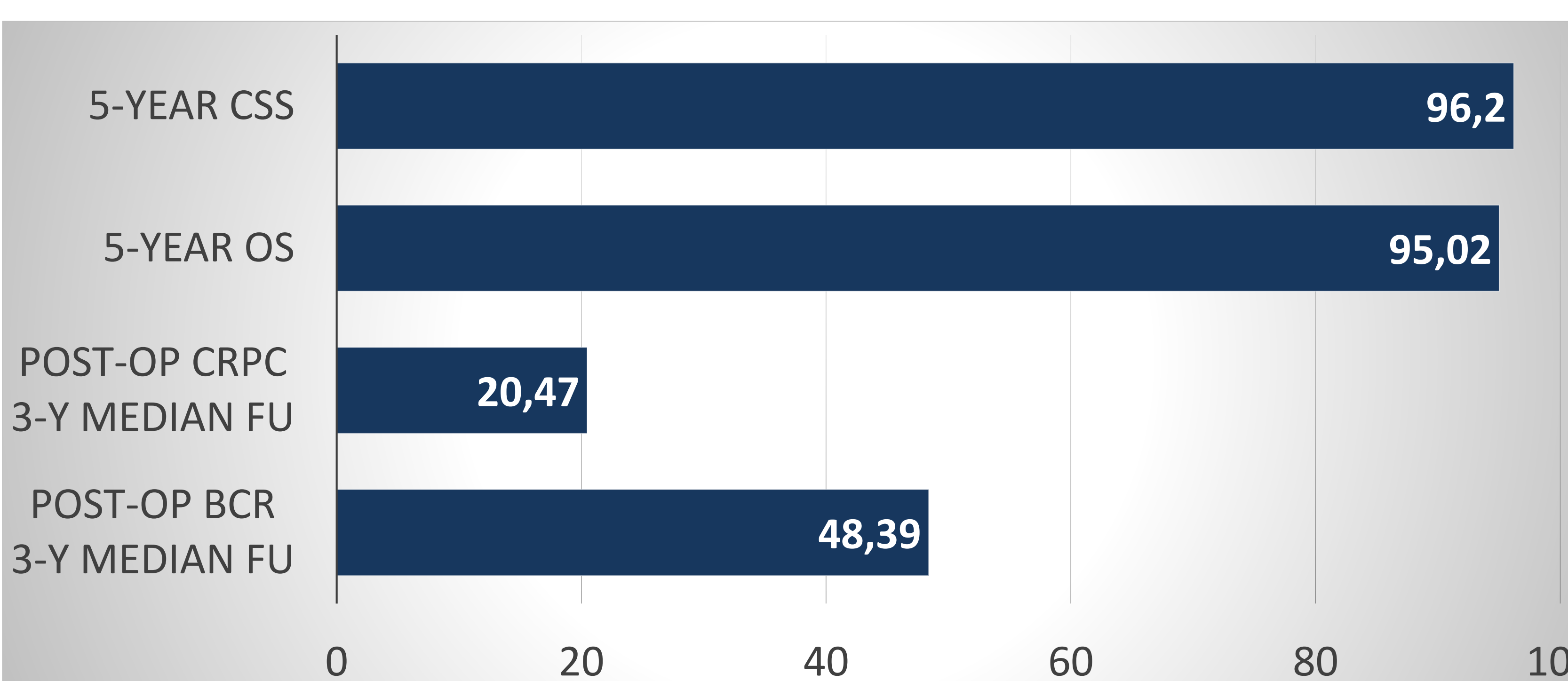


Table 2. Nerve sparing RP

Nerve sparing, % (n)	
No	85.94 (269)
Monolateral	1.60 (5)
Bilateral	12.46 (39)

Table 2. Lymphadenectomy

LNF template	
No LAD	15.94 (55)
limited	31.59 (109)
extended limited	37.39 (129)
extended	13.33 (46)
retroperitoneum	1.74 (6)
Nodes removed per patient	11.727 (5-17)
Nodes positive per patient	0.63 (0-0)

Table 3. Complications and functional outcomes

	% (n)
Patients experiencing at least 1 complications	34.9 (138)
Patients experiencing at least 1 major complication (Clavien ≥3)	10.1 (40)
Severe incontinence at 1 year post sRP (≥3 pads/day)	29.9 (73)
Spontaneous or PDE-5 erections at 1 year	8.1 (15)

