Radio-recurrent Castration-resistant Prostate Cancer: results of a recent series of salvage radical prostatectomies.

Giancarlo Marra[1], Giorgio Calleris[1], Paolo Alessio[1], Marco Oderda[1], Francesca Pisano[1], Antonino Battaglia[1], Stefania Munegato[1], Fernando Munoz[2], Juan Palou[3], Steven Joniau[4], Salvatore Smelzo[5], Thierry Piechaud[5], Alessandro Morlacco[6], Sharma Vidit[6], Henk Van Der Poel[7], Robert J. Karnes[6], Paolo Gontero[1]

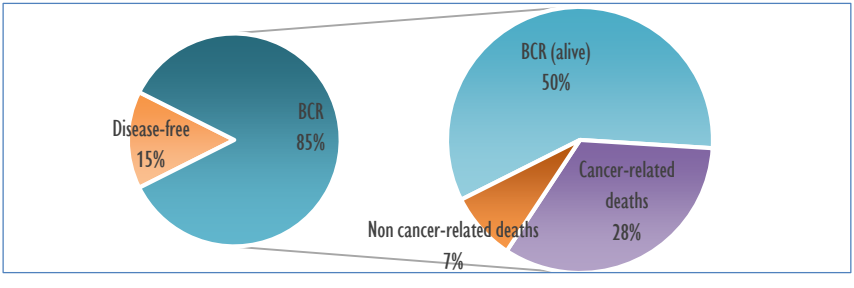
1) San Giovanni Battista Hospital, Città della Salute e della Scienza, University of Turin, Turin, Italy; 2) Department of Radiotherapy, Parini Hospital, Aosta, Italy; 3) Fundaciò Puigvert, Barcelona, Spain; 4) Leuven University Hospitals, Leuven, Belgium; 5) Clinique Saint Augustin, Bordeaux, France; 6) Mayo Clinic, Rochester, MN, USA; 7) Netherlands Cancer Institute, Amsterdam, Netherlands;

Objectives: We investigated the oncological and functional outcomes of salvage radical prostatectomy (sRP) in the context of radio-recurrent Castration resistant prostate cancer (CRPC).

Methods: We retrospectively analyzed data of 24 patients affected by radiotherapy (RT)-recurrent CRPC, who underwent sRP (open n=22; robotic n=2) at six tertiary referral centers from 2001 to 2014. We registered oncological, clinical and pathological features at sRP and during follow-up. Complications were graded using the Clavien-Dindo score. Continence was evaluated before sRP and at 6 and/or at 12 months, expressed as number of pads per day. Patients with insufficient data and/or with a follow-up shorter than 12 months were excluded.

	Median or ratio (IQR)
n	24
Age at sRP [y]	69 (65-72)
PSA at diagnosis [ng/ml]	18 (8.6-45)
PSA at sRP [ng/ml]	7.4 (3.6 -13.6)
RT to sRP interval [months]	76 (48-107)
Major complications	40%
sRP Gleason	
9	47.8%
8	23%
7	28.5%
Continence at 6 or 12 months	33%
Follow-up [months]	47.8 (25-85)

Patient status at the end of a median 47,8-month follow-up



Results: Twenty-four men were included. At PCa diagnosis, original median PSA was 18 (IQR 8.6-45) ng/mL. At sRP, median age was 69 (IQR 65-72) and median ECOG score 0 (IQR 0-0). Men underwent salvage surgery a median of 76 (IQR 48-107) months after primary treatment. Excluding two patients who were under androgen-deprivation therapy (ADT) at the time of sRP, median pre-sRP PSA was 7.4 (IQR 3.6-13.6). Considering medians, number of removed and positive nodes was 15.5 (IQR 4.5-23.2) and 0 (0-2.5), respectively; operating time was 3h40' (IQR 3h9'-4h37'), median blood loss 500 (450-700) mL (n=3 needing post-operative transfusions). Median hospital stay was 7 (IQR 4-9) days. Major complications and overall complications were encountered by 40% and 73% of the patients, respectively. At final pathology, nearly half of the patients (47.6%) had Gleason Score (GS) 9, 23% had GS 8 and 28.5% had GS 7; the proportion of positive surgical margins and of non-organ-confined disease was noticeable (65% and 64%, respectively). First post-operative PSA was below 0.2ng/mL in 37.5% (n=9). After 6 and/or 1 year follow up, 33% of patients was continent, whilst 44% of men had severe incontinence (>2 pads/day). At a median follow of 47.8 (IQR 25-85) months: i)17.4% were disease-free; ii) 82.6% had recurrence; iii) 33.3% (n=8) and 8.3% (n=2) died for cancer specific other causes respectively. Second-line therapies were started by 4 patients a median of 47.8 months after sRP.

Conclusions: sRP for CRPC is an extremely complex surgery, which entails high complication rates and comorbidities and poor curative rates. Nevertheless, the procedure may be curative or post-pone CRPC status relapse and/or initiation of second line therapies in a minority of patients. Larger series are needed to confirm these finding and to identify potential candidates with the greatest expected benefit.