THE PROGNOSTIC VALUE OF THE SIZE AND THE SITE OF THE LOCAL FAILURE AT DCE-MRI BEFORE SALVAGE RADIOTHERAPY FOR PROSTATE CANCER

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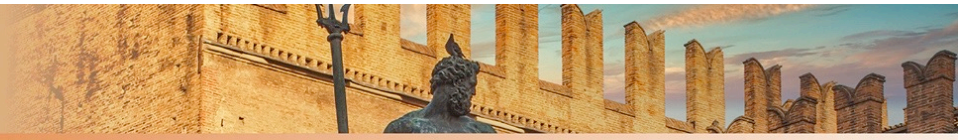
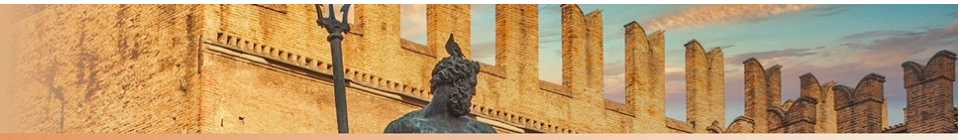


Conflict of interest

No disclosure



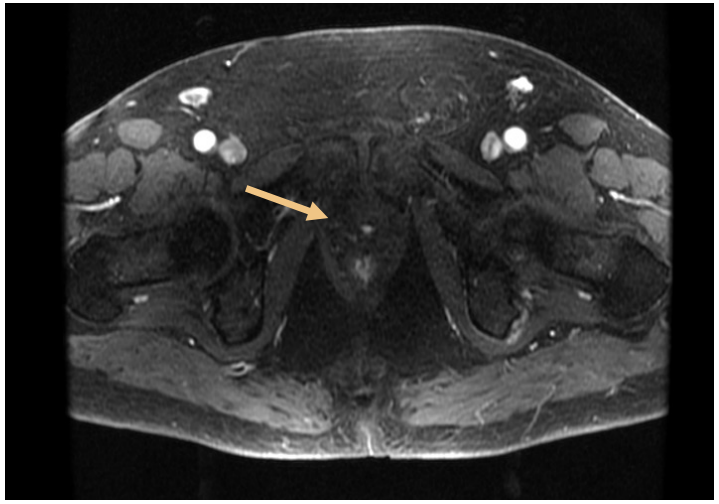
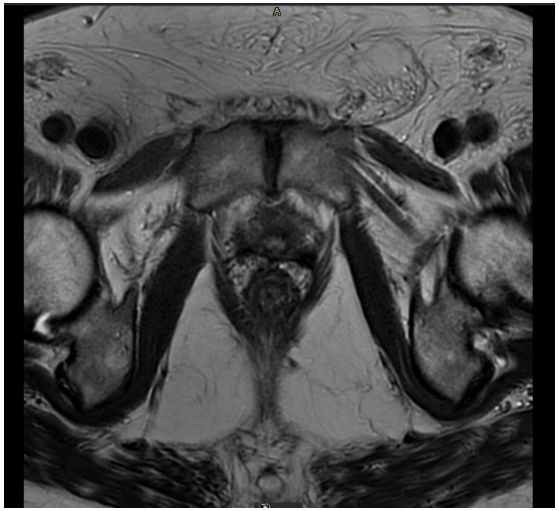
Aims

To investigate predictors of biochemical failure after salvage radiotherapy (sRT) in the context of a presumed local failure at dynamic contrast-enhancement-magnetic resonance imaging (DCE-MRI) post radical prostatectomy (RP).

Who?

- localised prostate cancer treated with RP;
- undetectable (<0.1 ng/mL) PSA after RP;
- subsequent biochemical recurrence
  (2 consecutive PSA rises to 0.2 ng/mL or higher);
- a presumed local failure at mpMR;
- no distant M+ at restaging PET/CT
  (either CH and/or PSMA);
- specific signed informed consent
- NO previous history of androgen deprivation therapy;
- NO positive nodes at RP;
- NO previous radiotherapy;

Methods

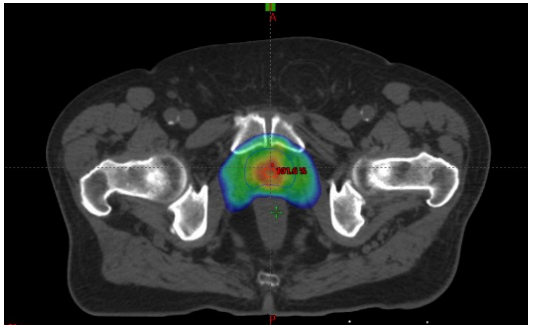

The lesion(s) identified on DCE-MRI were transferred on planning CT after co-registration

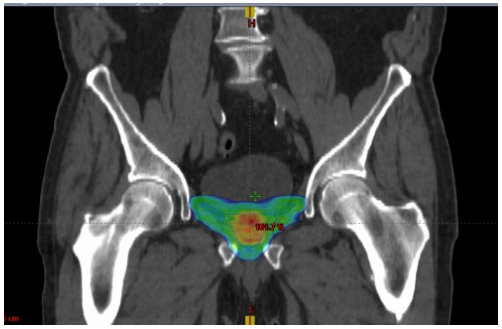
Methods

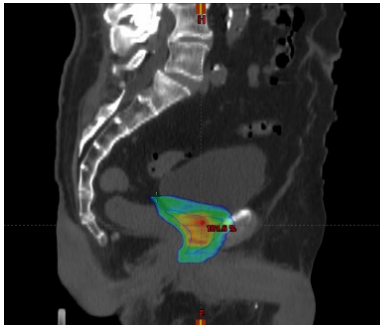
73.5 Gy/30 fx DCE-MRI local lesion

69 Gy/30 fx prostatic bed

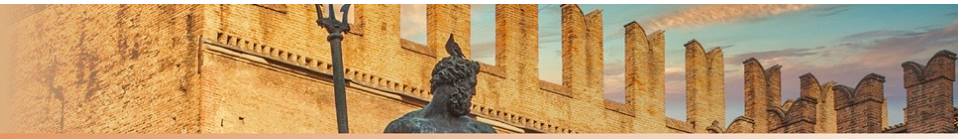
(**54 Gy**/30 fx pelvic nodes – selected pts)







The endpoint of the study was the development of a biochemical failure after sRT defined as a 0.2 ng/ml PSA rise above the nadir

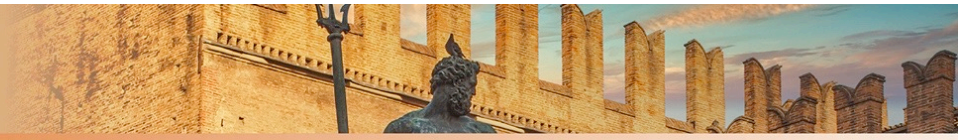


Methods

Various covariates regarding patient and disease characteristics were investigated at univariate analysis (UVA) on the time to biochemical failure (bNED-survival):

age	PSA detectability after RP
pre-RP PSA	PSA at sRT
margins status at RP	location
ISUP grade group	number and volume of the detected recurrence(s)
time from RP to sRT	AD use
PSA doubling time	PN coverage EUA risk category

Covariates with a p value <0.2 at UVA were entered a Cox proportional hazards regression analysis



Results

January 2014 → June 2020

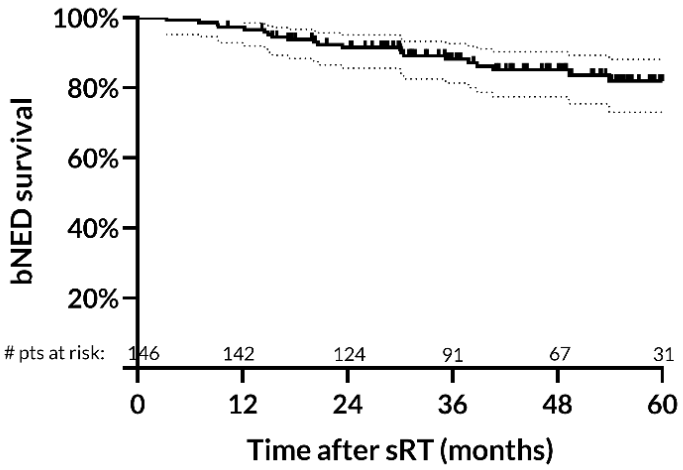
Patients	146		
PSA at sRT	0.60 ng/ml (IQR 0.38-1.05 ng/ml)		
Lesions	168	92 (54.8%)	vesicourethral anastomosis (VUA)
		40 (23.8%)	bladder neck
		36 (21.4%)	retrovesical space
AD	17 (11.6%)		

Results

Median follow-up 48.1 mths (IQR 31.3-60.6 mths)

22 biochemical failures

4-yr bNED-survival 84.4% (95%CI: 77.9-90.9%)



bNED survival in the whole population

Results

At UVA bNED-survival significantly more likely with:

- **VUA-only lesions**

  (VUA-only vs others, HR=0.307, 95%CI: 0.120- 0.784, **p=0.014**)

  4-yr bNED survival rates 90.7% (95%CI: 83.4-98.0%)

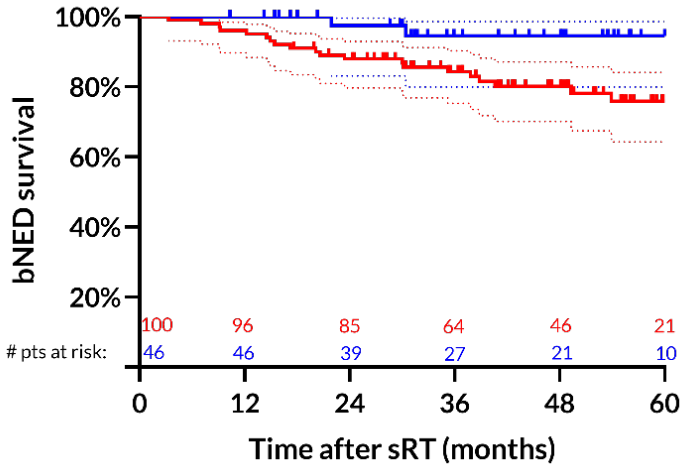
- **smaller lesions**

  (for every cc, HR: 1.071, 95%CI: 1.025-1.119, **p=0.002**)

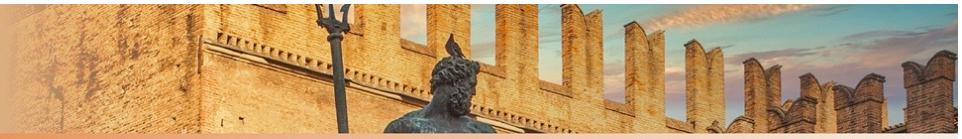
  4-yr bNED survival rates 90.6% (95%CI: 83.9-97.3%)

Results

The 46 patients with both favorable features had a 4-yr bNED rate of 94.6% (95%CI: 87.3-100%)



bNED survival in patients with both favorable covariates (VUA-only and lesions <0.5 cc) vs others



Conclusions

- ✓ These data support local restaging with DCE-MRI before sRT for biochemical failure after RP
- ✓ Patients with VUA-only and/or small volume lesions have an excellent outcome after dose-escalated sRT