Podium Session - PD54-09

BIOCHEMICAL RECURRENCE OF PROSTATE CANCER: COULD PSMA PET/CT SCAN BE USEFUL?

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Introduction and Objetive

Clinical approach of prostate cancer (PCa) biochemical recurrence (BCR) is nowadays being **questioned**.

Prostate-specific membrane antigen positron scan (**PSMA PET**) has shown **good potential** in this field.

The aim is to **evaluate PSMA PET accuracy in BCR** and its **utility** on clinical outcome.

Methods

Of 319 patients with PCa who underwent 68-Ga PSMA PET **between October 2015 and June 2019**, **70** had **BCR after treatment with curative intent**.

Clinical, analytical, pathological and PSMA PET results were evaluated.

Group C (GS) → Patients submitted to **surgery** **(N:48; 68.6%)**

Group R (GR) → Patients submitted to **radiotherapy** **(N:22; 31.4%)**

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Results

Data	Group S (N:48)	Group R (N:22)	p
Age at PCa Diagnosis (years)	66 ± 6.5	**69 ± 6.2**	0.008
Initial PSA (ng/mL)	8.7±5.7	7.5±5.8	**0.4**
EAU risk groups for BCR of localised PCa			0.001
- Low-risk	8.5%	**47.6%**	
- Intermediate-risk	**85.1%**	42.9%	
- High-risk	6.4%	9.5%	
Time between initial treatment and BCR (months)	23.5 ± 42.7	44.5 ± 42.5	**0.09**

68-Ga PSMA PET

	Group S (N:48)	Group R (N:22)	p
Pelvic relapse	15 (31.3%)	**14 (63.6%)**	0.001
Extrapelvic relapse	9 (18.8%)	**7 (31.8%)**	
No disease	**24 (50%)**	1 (4.5%)	

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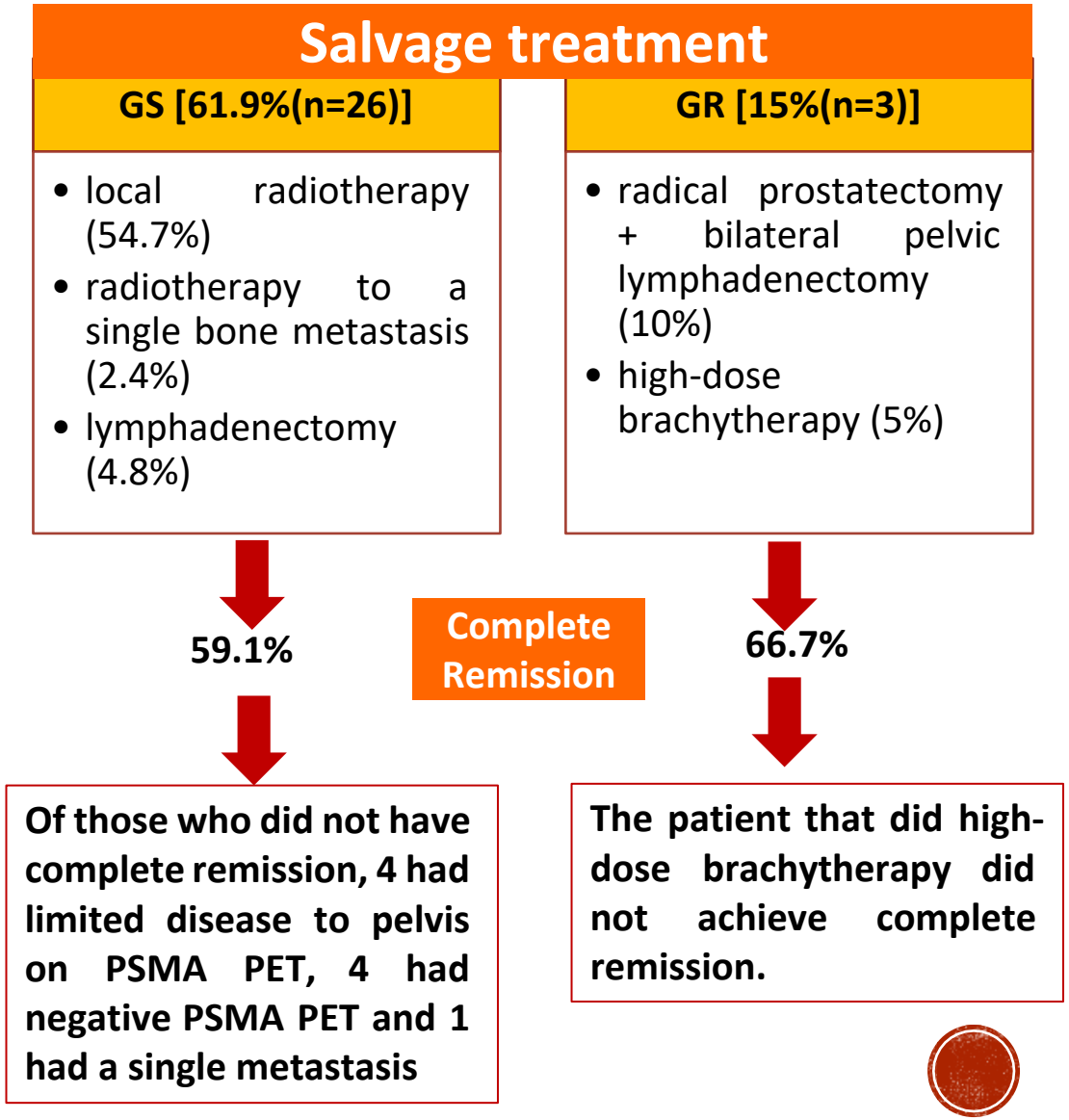
Groups + PSMA PET positive	PSA value in pelvic relapse (ng/mL)	PSA value in na extrapelvic relapse (ng/mL)	p
If GS + positive PET-PSMA	0.99±0.9	1.0±13.2	0.6
If GR + positive PET-PSMA	3.0±2.1	4.5±5.4	0.2



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Salvage treatment

GS

- **RT**, as **salvation treatment**, led to **complete remission** in **68.4%** (N=13).
- **Neither extended lymphadenectomy nor radiotherapy to the single bone metastasis led to complete remission**. The **removed ganglia did not harbour tumour**.

In GS, **PSMA PET** is positive for **pelvic disease** mainly when pre-PET PSA **≥0.8ng/mL** (Sensibility:73.3%, Specificity:72.7%) and for **extrapelvic disease** when PSA **≥0.4ng/mL** (S:66.7%, S: 30.8%), p> 0.05.

In **GR**, **PSMA PET** is positive for **pelvic disease** mainly when pre-PET PSA **≥2.3ng/mL** (S:71.4%, S: 37.5%) and for **extrapelvic disease** when PSA é ≥ **3.5ng/mL** (S: 71.4%; S: 60%), p> 0.05.

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Limitations

Limited size sample

Different size groups

Conclusions

When **PSMA PET was positive**, PSA was **similar** between **patients with pelvic and extrapelvic relapse**.

Biochemical persistence rate after salvage therapy was **similar** (30-40%).

The **cut-off PSA values for pelvic relapse** detected on PSMA PET were ≥**0.8 ng/mL** (**GS**) and ≥**2.3ng/mL** (**GR**).

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