Table 1: Patient Characteristics

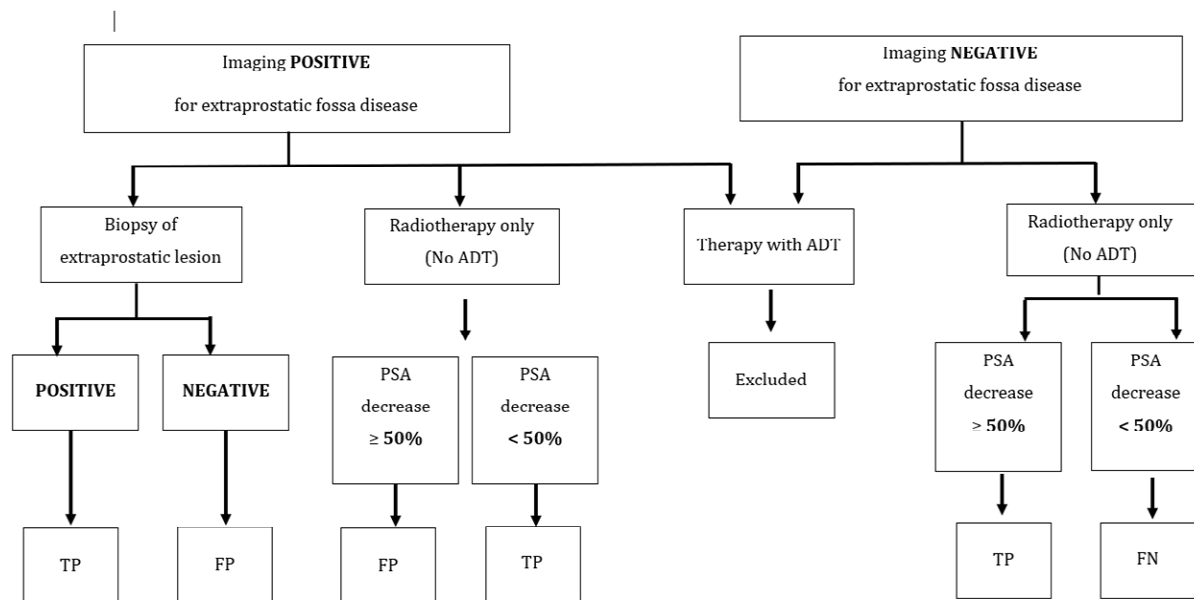| Characteristic	Value	
Median Age	64 years	IQR 59-69
Median PSA at imaging	0.42ng/mL	IQR 0.29-0.93
Median PSA doubling time	5 months	IQR 3.3- 7.6
Tumour stage		
T2	34	37.4%
T3a	35	39.5%
T3b	21	23%
Positive surgical margins	27	29.7%
Gleason score		
6-7	60	67%
8-10	29	32%
Median months since RP	23	IQR 9 – 46.5
Treatment Received		
No treatment administered	19	21%
Salvage fossa RTX	44	48%
Fossa + pelvic nodal RTX	8	9%
RTX fossa /nodes + ADT	16	17%
ADT alone	4	5%

Table 2: Per patient detection rates for PF and extra PF disease by imaging modality (FCH, PSMA and pelvic MRI)

Modality	Fossa recurrence	Extra PF	Fossa + Extra PF
Pelvic MRI	19/88 (21.5%)	7/88 (8%)	25/88 (28%)
FCH	12/91 (12%)	17/91 (19%)	29/91 (32%)
PSMA	6/31 (19%)	10/31 (32%)	13/31 (42%)
Overall	27/91 (30%)	21/91 (23%)	48/91 (53%)

Table 3. Per patient comparison tables of FCH and MRI (A) and FCH and PSMA (B) for detection rates of Negative or Fossa confined disease and Extra-PF disease.

Modality (A)	FCH neg or fossa confined	FCH extra-PF	
MRI neg or fossa confined	69	12	81
MRI extra-PF	2	5	7
	71	17	88

Modality (B)	FCH neg or fossa confined	FCH extra-PF	
PSMA neg or fossa confined	20	1	21
PSMA extra-PF	1	9	10
	21	10	31

Table 4. Per patient diagnostic accuracy for FCH, PSMA and Pelvic MRI for Extra - PF prostate cancer in men with BCR post RP and negative/equivocal conventional imaging.

Modality	Sensitivity	Specificity	NPV	PPV
Pelvic MRI	19%	97%	66%	80%
FCH	47.8%	97%	73.9%	91.7%
PSMA	66.67%	100%	50%	100%

Figure 2.

A 67 year old man with GSC 8 PCa, PSA 0.29ng/mL 5 years post RP. Imaging demonstrates a prostate fossa recurrence on FCH, PSMA and pelvic MRI (A), which entirely resolved on repeat PSMA following SRT to the prostate fossa (B). A solitary PSMA avid, FCH and MRI negative T11 focus was persistent on repeat imaging at 3 months and confirmed True positive (C). This focus was negative on thoracic spine MRI (D).
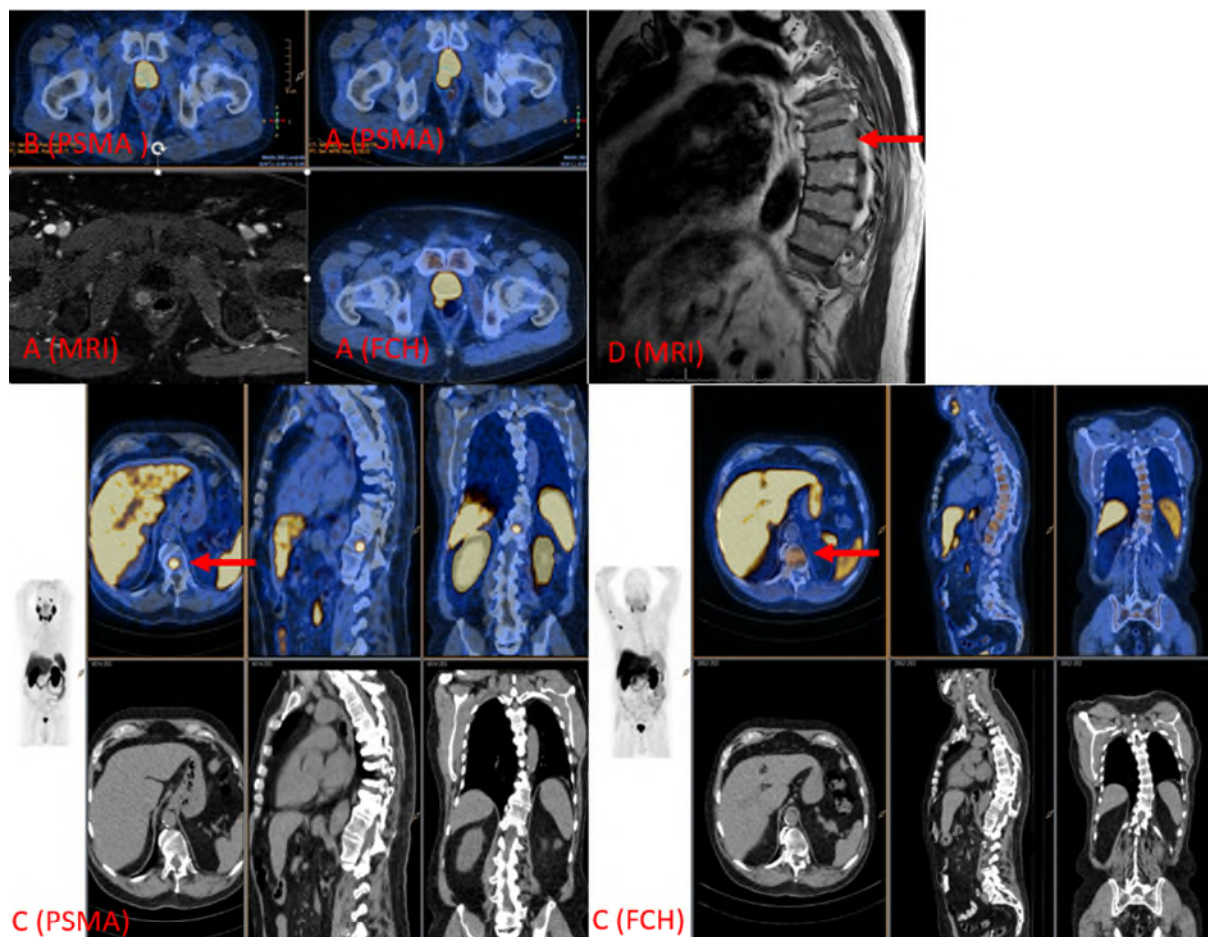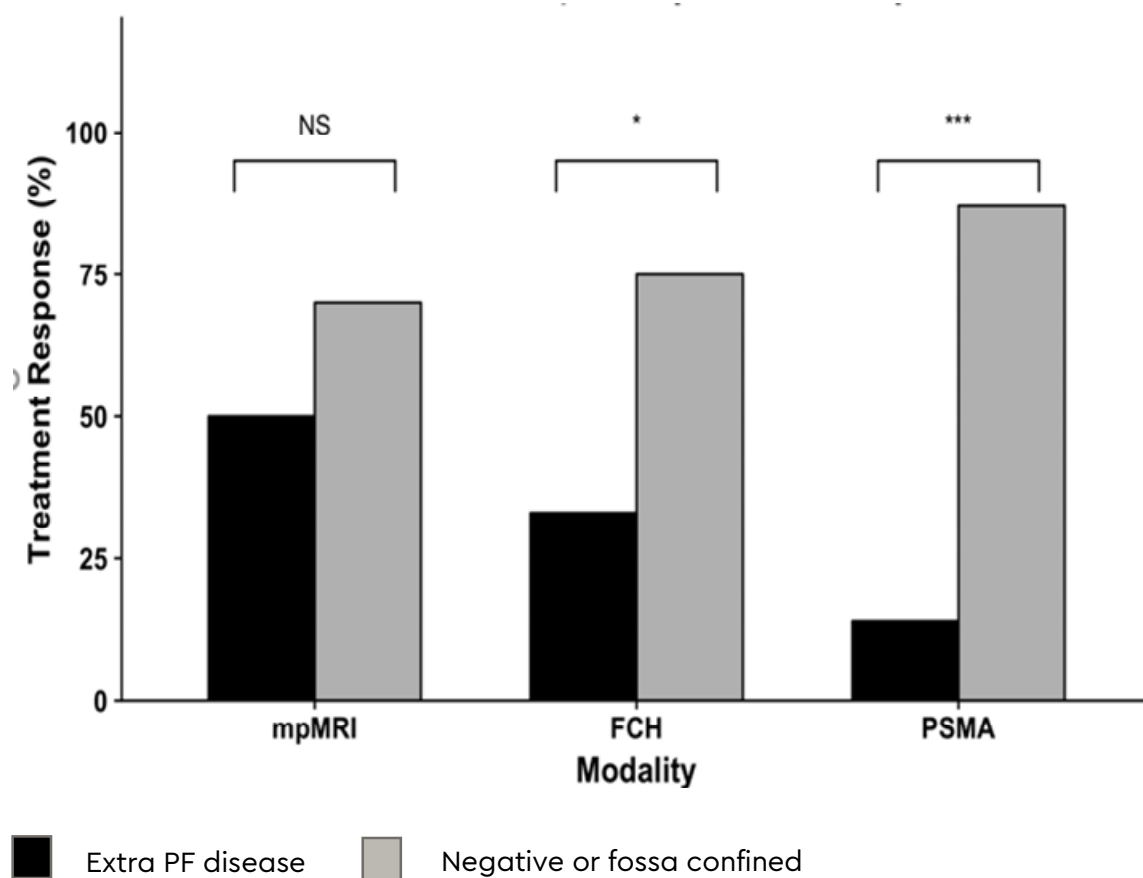
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Figure 3. Treatment response to targeted SRT stratified by imaging result (Negative or fossa confined vs. Extra-PF disease) for pelvic MRI, FCH and PSMA.

*p < 0.02   ***p < 0.005