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UNIVERSITÀ DEGLI STUDI DE L'AQUILA

LONG-TERM PROGRESSION-FREE AND OVERALL SURVIVAL IN ELDERLY MEN WITH POST-SURGERY NON-METASTATIC RADIOLOGICALLY OR HISTOLOGICALLY CONFIRMED MACRSCOPIC LOCOREGIONAL RELAPSED PROSTATE CANCER AND TREATED BY 3D-CONFORMAL OR VOLUMETRIC MODULATED ARC RADIOTHERAPY

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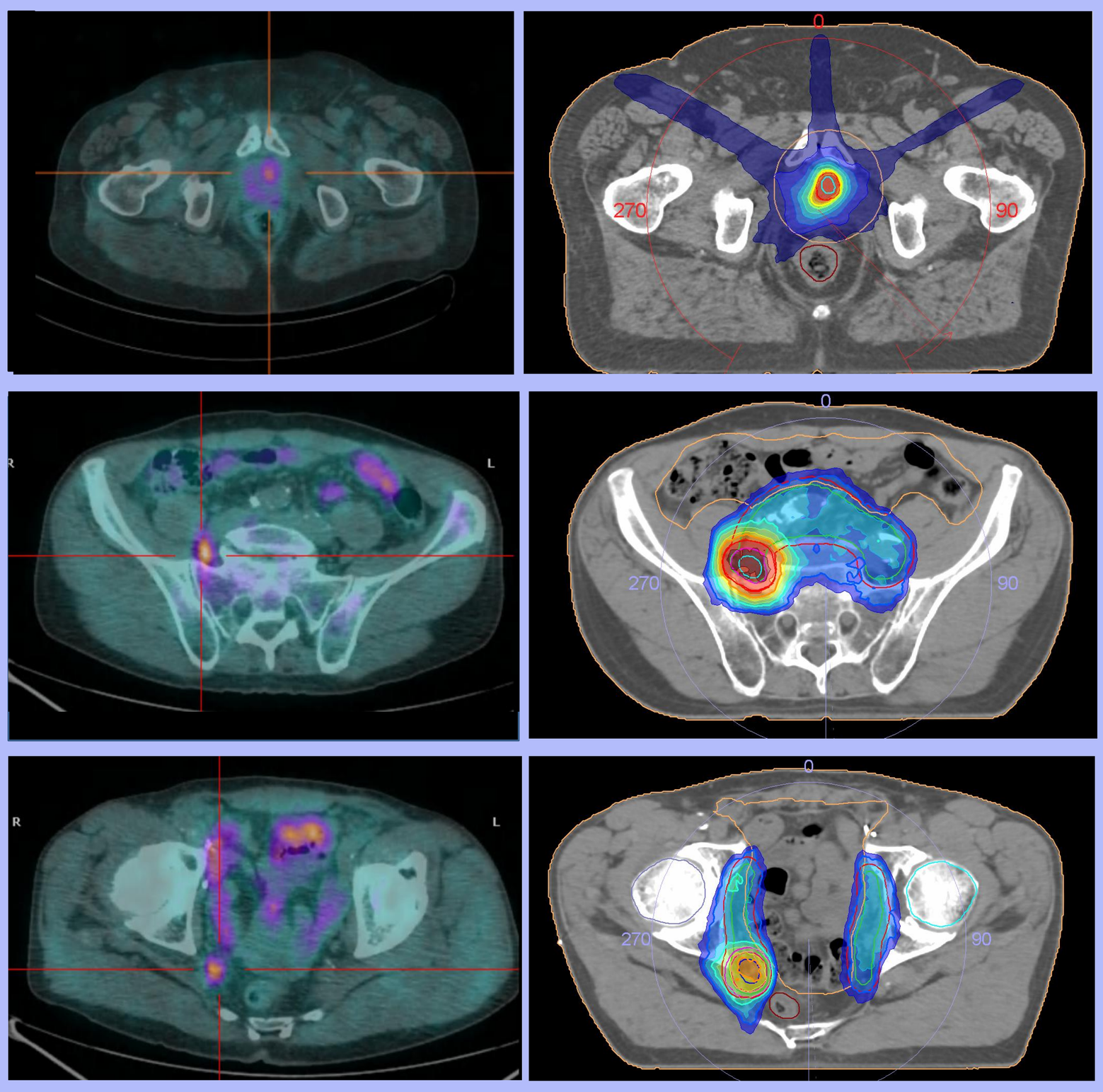
Aims: to report the fractionation schedules and the long-term oncological outcomes of men with post-surgery non-metastatic macroscopic locoregional relapsed prostate cancer (Pca) undergoing RT.

Methods: Forty-four patients with post-surgery non-metastatic radiologically or histologically confirmed macroscopic locoregional relapsed Pca were retrospectively reviewed. Progression free survival (PFS) defined as biochemical and/or radiological progression and Overall survival (OS) were used as main oncological measures

Results: The mean age of studied population was 68,8 years (95%CI 67,2-70,5) and the mean pre-RT PSA was 2.1 ng/ml (95%CI 1,4-4,7). Thirty-two (72,7%) men received antiandrogen therapy before RT. Ten men (22,7%) were treated with VMAT and 25 (56,8%) also received IGRT. Macroscopically relapsed tumour was in prostate fossa and in the regional nodes in 39 (88,6%) and 5 (11,6%) patients, respectively. Eight (18,2%) men received the irradiation of the only prostate fossa (70-76 Gy in 35-37 fractions) and 3 patients (7%) received irradiation of the only macroscopic relapsed Pca within prostate fossa (36.25 Gy in 5 fractions). Twenty-six (59,1%) men received the irradiation of the prostate fossa (70-76 Gy in 35-37 fractions) with elective irradiation of regional nodes (45-50,4 Gy in 25-28 fractions). Two men (4,5%) received SIB-VMAT delivered to prostate fossa (68,4 Gy in 38 fractions) and macroscopically relapsed Pca (76 Gy in 38 fractions) and 3 men (7%) received SIB-VMAT delivered to elective locoregional lymph nodes (51-49,5 Gy in 30-33 fractions) and PET+ nodes (60-66 Gy in 30-33 fractions). Finally, two patients (4,5%) received VMAT delivered to PET+ lymph nodes (40 Gy in 5 fractions). The post-RT PSA nadir (0,082 ng/mL; CI95% 0-016) was achieved at a mean time of 11 months. The actuarial PFS and OS were 123.8 (103.97-143.7) and 138 months (121-154.4) with the rate of men free from progression and alive of 79,5% and 91%. Six men progressed in prostate fossa and 3 developed bone lesions. The mean PSA at the last follow-up was 3.75 ng/ml (0-10.1).



N. Patients (%)	Reccurence site	Target	Prescribed dose
8 (18,2 %)	Prostate fossa	Prostate fossa	70-76 Gy in 35-37 fr
3 (7 %)	Prostate fossa	Macroscopic relapsed Pca within prostate fossa PET+	36,25 Gy in 5 fr
26 (59,1 %)	Prostate fossa	Prostate fossa Regional nodes	70-76 in 35-37 fr 45-50,4 Gy in 25-28 fr
2 (4,5 %)	Prostate fossa	Prostate fossa Macroscopically relapsed Pca PET+	68,4 Gy in 38 fr 76 Gy in 38 fr
3 (7 %)	Nodes	Locoregional lymph nodes PET+ nodes	51-49,5 Gy in 30-33 fr 60-66 Gy in 30-33 fr
2 (4,5 %)	Nodes	PET+ nodes	40 Gy in 5 fr

RTOG ACUTE radiation toxicity (N. patients)

GI toxicity			GU toxicity		
G1	G2	G3	G1	G2	G3
6	0	0	14	1	1

RTOG LATE radiation toxicity (N. patients)

GI toxicity			GU toxicity		
G1	G2	G3	G1	G2	G3
2	0	0	2	1	0

Conclusions: Radiation treatment of non-metastatic elderly men with macroscopic locoregional relapsed Pca poses a unique challenge for radiotherapists owing to the age related limited life expectancy and the high treatment effectiveness of multimodality treatment strategies. Tailored age-related defined treatment strategies should be identified to improve the quality of life of this population.