

on CT scans. The aim of our study was to quantify over the time, with serial CT, fat and lean changes related to this induced status.

Methods. CT scans from 52 prostate cancer patients treated with androgenic blockade were reviewed. CT sets were analyzed with the MIPAV software (v.4.4.1, U.S. National Institutes of Health) using the abdomen segmentation plugin and the grow region tool. Fat and lean areas and mean Hounsfield units (HU) were recorded from abdominal total, subcutaneous and visceral fat tissue, as well as waist and hip circumferences. Patients had a basal CT scan and another study one, two or three years later. Nonparametric paired statistics were used.

Results. Forty-six men underwent androgenic blockade (AB), and six patients did not receive anti-androgens. Mean abdominal area significantly increased one year after the start of AB, but could not reach significance at second and third year. Lean abdominal area significantly decreased parallelly. There were not differences among the variables analyzed between patients who received AB and patients who did not received.

Conclusions. Hypogonadism has been related to an adipose redistribution, our results have demonstrated also a fat redistribution, but the small size sample has prevent to obtain a statistical significance.

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Radiation therapy for localized prostate cancer and castration refractory?

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Introduction. Most prostate cancers express androgen receptors. Patients with advanced disease are treated with androgen deprivation, androgen receptors blocking or both.

Objective. Between 70 and 80% of patients initially respond to androgen suppressive therapy. Radical radiotherapy is still an option for the patient with prostate cancer clinically confined to prostate gland treated with androgen deprivation monotherapy and cataloged as castration refractory, based on delay of progression disease.

Method. Patient 76 years old, with no history of interest came to his doctor for prostatic syndrome with elevated PSA (402.5 ng/ml). Prostate biopsy showed a prostate adenocarcinoma, Gleason 4+4 on all cylinders tested, high-risk by D'Amico (T2c). Staging workup was negative. The patient was no considered a candidate for radiation therapy for high risk of subclinical disease spread, due to high PSA levels at baseline. The patient received complete androgen deprivation with Bicalutamide and LHRH analogue with PSA nadir at 10 months of 1.3 ng/ml. After two years of treatment, a biochemical failure is detected without distal clinical failure. After two hormonal manipulations (antiandrogen withdrawal, estramustine phosphate) and fleeting response of 10 months, the patient was in biochemical progression without distal disease. The hypothetical utility prostate radiation therapy was raised, a reference dose of 50 Gy was received with prostate overprint on to complete a 76 Gy standard fractionation dose.

Result. Tolerance to treatment was good. With post-radiotherapy follow up of 18 months, the patient is asymptomatic, continuing treatment with LHRH analogue and biochemical control (PSA of 1.2 ng/ml).

Conclusion. Although we do not have sufficient evidence to give a curative role to the radiotherapy in the treatment of these patients, it can provide a higher quality of life, with a decrease in the rate of local progression and therefore an increased on the time until the overall progression of the disease.

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Radiotherapy and prosthetics. A case with bilateral hip prostheses

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Introduction. Radiotherapy treatment in patients with prostheses is complex. The presence of high atomic number materials results in radiation attenuation through the prosthesis, affecting the optimal PTV coverage. Usually a treatment plan tries to avoid the radiation beams entering through the prosthesis. In cases with bilateral hip prostheses the treatment design is even more demanding, because of the avoidance of beam entrance through the affected hips can cause unacceptable doses in the organ at risk (OARs), besides compromising the optimal dose homogeneity in the PTV and its good coverage.

Material and method. 66-year-old patient with bilateral hip prosthesis, diagnosed with biochemical relapse (0.34 PSA ng/mL) of an ADC of prostate Gleason 6, intervened (pT2a positive margin of 2 mm) in 2011, was referred to our service for rescue treatment. A 3DCRT treatment was dismissed by its rectal high toxicity. 5 IMRT treatment plans were designed, varying energies and fields arrangement. For plan evaluation, dose-volume histograms (DVH) and the conformity index (CI) were calculated and compared.

Results. Analyzing the DVH of the OARs, all IMRT techniques obtained similar results, with doses below the constraints found in the literature. IC was above its limit value (=1), which indicates a good coverage of the PTV in the five techniques, varying in the range (1.53–1.94). The chosen technique was the IMRT plan with 11 not coplanar fields and energy of 6MV. Doses to the OAR rectum were V30: 35%, V40: 32%, V50: 27%, V60: 20%, and V65: 13%. The only immediate side effect was proctitis grade 2 to the 60 Gy. After 3-month follow up the patient remains asymptomatic.