were identified and mapped based on the ultrasound image. Dose optimization was done on the reconstructed applicator geometry using dose point and manual optimization algorithms to determine dwell positions and times. To decrease rectal toxicity, transperineal hyaluronic acid injection into the peri-rectal fat was used to consistently displace the rectal wall away from the radiation sources in all patients. To decrease genitourinary toxicity, urethral hypothermia was used. The prostate without safety margins was then defined as the planning target volume (PTV) to be treated with the prescribed dose (PD). All patients were discharged from the center on the same day of the procedure between 6-8 hours of implantation.

Conclusions. This treatment is feasible with advantages compared to LDR and HDR brachytherapy as monotherapy using the fractionation schedule of 4 fractions administered 2 times daily over two days and may involve a change in the therapeutic strategy of this tumor.

http://dx.doi.org/10.1016/j.rpor.2013.03.684

Hypofractionation in prostate cancer with IGRT, hyaluronic-acid and IMRT
J. Valero Albarrán 1, E. Sanchez 1, A. Rodriguez 1, G. Potdevin 1, O. Hernando 1, M. Garcia Aranda 1, M. Lopez 1, R. Ciérvide 1, J. García 2
1 Hospital Universitario Madrid Norte Sanchinarro, Oncología Radioterápica
2 Hospital Universitario Madrid Norte Sanchinarro, Radiofísica Hospitalaria

Introduction. Image guide radiotherapy (IGRT), hyaluronic acid injection and Intensity Modulated Radiation Therapy (IMRT) are an advantage strategy in moderate hypofractionated radiation therapy in prostate cancer.

Objective. To describe how IGRT, hyaluronic (HA) acid injection and IMRT have been incorporated to improve accurate and safety for hypofractionated treatment in prostate cancer in our institution.

Methods. We investigated a moderate hypofractionated protocol to treat low and intermediate risk prostate cancer with dose-escalated since 63 Gy in 21 fractions (3 Gy/day) until 52 Gy in 13 fractions (4 Gy/day). The procedure will be performed in lithotomy position of the patient under sedation within 15–20 min. Previously to treatment administration, transperineally and guided by transrectal ultrasound, HA was placed in the perirectal fat, in order to protect the rectum and optimize the dose. In the same procedure a fiducial internal marker (Visicoil®) was placed within the prostate gland. External infrared spheres were used during the CT simulation. The treatment was realized with IMRT with “sliding windows”, in the Novalis Linac (Brainlab®), adapted to stereotactic treatments. Daily verification of the treatment was performed with IGRT Exactrac system, using a 6D robotic couch, infrared camera and orthogonal X-rays. We have not seen side effects and not complications related to the injection or the compound itself and fiducial internal marker (Visicoil®) placed. There is no toxicity in the fat tissue or in rectal function.

Conclusions. Moderate hypofractionated radiotherapy with IGRT (fiducial internal markers), HA injection and IMRT, is a feasible, safety and accurate treatment for low and intermediate risk prostate cancer.

http://dx.doi.org/10.1016/j.rpor.2013.03.685

Laparoscopic radical prostatectomy in recurrent prostate cancer after radiotherapy
Hospital Universitario Puerta del Mar, U.G.C. Urología

Introduction. After external radiotherapy laparoscopic radical prostatectomy can get similar control in prostatic cancer compared with the standard radical prostatectomy, however it’s rarely performed. The use of brachytherapy as a curative treatment option has increased in recent years. Likewise, the biochemical relapse and failure after radiotherapy is becoming increasingly common and it’s considered a therapeutic challenge, especially in patients with local recurrence, low comorbidity, life expectancy of at least 10 years, CT1-T2, Gleason <7 and preoperative PSA <10 ng/ml.

Case report. A 65 years old male with a body mass index of 31.93 kg/m², with an initial PSA of 5.93 ng/ml in 2007. Prostatic biopsy determined a well-differentiated prostate adenocarcinoma Gleason 4 (2 + 2) in the left lobe, whereby the patient received external radiotherapy by administering a total of 77.7 Gy, achieving a nadir PSA of 1.1 ng/ml in October 2007. Since then PSA levels started rising up gradually reaching 3.6 ng/ml in August 2009. We think that the patient had a local recurrence, cause bone scintigraphy was negative and MRI determined a nodule of 15 mm in the left lobe supporting neoplasia. A prostatic biopsy reported focus of adenocarcinoma in the two lobes and changes attributable to radiation therapy. We present a video of radiotherapy laparoscopic radical prostatectomy with a surgical time of 250 min. The hospital stay was 5 days. The pathologic report determined a lobar acinar adenocarcinoma (residual tumor), a high grade PIN, edges and vesicles respected, ductoacinar epithelial changes and fibrosis secondary to radiation therapy.

Conclusion. After external radiotherapy laparoscopic radical prostatectomy is a complex technique that can be offered to patients with less comorbidity and life expectancy greater than 10 years. Based on the published data, good local control rates can be reached with 30–50% recurrence-free survival and 70–77% specific-disease survival at 10 years.

http://dx.doi.org/10.1016/j.rpor.2013.03.686