

## Cancer Research 2020: Evaluation of the toxicity of conformal radiotherapy in non-metastatic prostate cancer at the EHS in oncology -Taleb Lotfi- University Oran 1

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**Introduction:** Prostate cancer is the most common cancer diagnosed in men in industrialized countries, where its incidence increases steadily. It has become in recent decades a real public health problem, because of its frequency and seriousness. Today, conformational radiotherapy is the standard technique for irradiating non-metastatic prostate cancers because of the benefits provided in terms of tolerance and control of the disease.

Prostate malignant growth positions the most well-known disease and the second most basic reason for disease demise in men. Radiation treatment (RT) is broadly utilized in the treatment of prostate malignant growth. Portion acceleration has been commonly embraced in the RT of prostate malignant growth for its favorable position of improved tumor control results. Since a large portion of the patients who were determined to have non-metastatic prostate malignant growth can endure longer than 10 years, the decision of RT methods with limited RT-related harmfulness is significant for improving nature of life. In any case, higher dosages are connected to expanded ordinary tissue poisonousness, for example, late gastrointestinal (GI) harmfulness and late genitourinary (GU) poisonousness.

As innovation propels, new RT strategies have developed and have been utilized in clinical practice. Three-dimensional conformal radiation treatment (3DCRT) conveys a radiation portion complying with the objective volume of tumor. Along these lines 3DCRT fundamentally builds the objective portion while reducing the presentation of solid tissue. RT strategies developed to a propelled type of 3DCRT, force regulated radiation treatment (IMRT), which creates non-uniform fields to expand the radiation portion conveyed to the proposed target volume while possibly limiting the light to the organs in danger. All things considered, the likelihood of a peripheral miss is a possible shortcoming of IMRT. Plus, the dose homogeneity, increment of light portions to bigger volumes of solid tissues and longer time required for arranging should be considered in the use of IMRT. The expanded absolute body introduction and screen units raise the danger of second malignancies of IMRT in examination with customary RT. The objective of our work was to evaluate the acute toxicity and the digestive and urinary sequel and secondary to conformal radiotherapy in patients with non-metastatic prostate cancer treated with EHS in oncology.

**Materials and methods:** This is a prospective prognostic study of a cohort of 90 patients with non-metastatic prostate cancer treated with conformal radiotherapy from June 2010 to December 2014. The acute and late toxicities of radiotherapy were graded according to RTOG criteria (Radiation Therapeutic Oncology Group).

**Results:** The average age of our patients is  $66.3 \pm 0.6$  years (52-78 years). Locally advanced and / or localized high-risk stages (according to the AMICO classification) are found in 80% of cases. Irradiation was associated with hormone therapy in 94.4%. The target volume included the prostate or prostatic lodge alone in 30.1% of cases and the pelvis in 69.9%. The dose ranged from 64Gy to 74Gy. In terms of dosimetry the dose constraints to organs at risk in this case the bladder, rectum and small intestine were respected. The majority of our patients tolerated radiation therapy well. There were only two cases of acute grade 3 urinary toxicity and 11 patients (12.2%) had grade 2 toxicity. On the gastrointestinal level, seven patients had acute grade 2 toxicity and no grade 3 complication was recorded. Regarding late-onset radiation complications, 16 patients (17.8%) presented with late grade 1 urinary toxicity and seven cases (7.8%) with grade 2. However, seven patients (7.8%) had late digestive toxicity grade 1, two (2.2%) grade 2 cases and one grade 3 patient.

**Conclusion:** Conformational radiotherapy in prostate cancer makes it possible to respect the dose constraints to organs at risk (bladder, rectum and small intestine) and to reduce the occurrence of complications, which significantly improves patients' quality of life.