Dosimetric differences in 3D CT-scan planning breast cancer brachytherapy
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Introduction. Brachytherapy as a boost in breast cancer, after conservative surgery and whole breast external beam radiotherapy, is a well known and accepted type of treatment. Traditionally in breast brachytherapy the dose used to be prescribed over the basal points, following the paris system in a theoretical dosimetry. Nowadays, 3D planification systems have been incorporated, so the PTV can be delineated on the CT-scan. Dosimetric and dose distribution differences can be found between the two types of planification.

Purpose. To evaluate the different dose distributions between the prescription over the basal points and the prescription over the PTV points.

Materials and methods. We analyze 6 patients 3D brachytherapy dosimetries, and in every case we compare the dose, prescribing over the basal points and prescribing over the PTV points, determining in every type of planification the V150, V200 and D90.

Results. When the dose is prescribed over the PTV points, D90 is higher than when the dose is prescribed over the basal points in every patient. V150 and V200 are also higher when the dose is prescribed over the PTV points, but in any case the V200 exceeds 10 cm³, and any case V150 exceeds 15 cm³.

Conclusions. When a 3D CT-scan planification is done, prescribing over the PTV obtains a better covering of the target and does not exceed the limits of the high dose RTOG recommendations.

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Exclusive brachytherapy as treatment of a patient with non microcytic lung's cancer, on purpose of a patient previously treated of a primary tracheal's cancer
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Patients and method. A male 58 year old patient, with a history of primary carcinoma of the trachea T2N1M0 large cell, treated with chemotherapy and radical radiotherapy in 2007 and intratracheal stent of Poliflex. In 2009, was made a periprosthetic accurate resection of granulomas in the proximal and distal area and mitomycin C locally application. In June 2011 it was operated chemotherapy and radical radiotherapy in 2007 and intratracheal stent of Poliflex.

Results. It has been calculated the doses received for the treatment of the tracheal tumor, that has been of 1230 cGy, in the zone currently affects. It has been programmed 4 or 5 sessions of endobronchial brachytherapy with high rate of doses with the team VarisourceTM unit and punctual source of 0.5 cm of I-131, around the affected areas, making the collocation of the plastic endobronchial catheter of VARIAN of 4.7 Fr and 150 cm, simulation TAC in situ and dosimetric calculation with application of the session right after, previous displacement of the patient from the TAC's room, with mobile table, to the brachytherapy's bunker.

Conclusion. The primary radical brachytherapy treatment was decided.

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Exclusive brachytherapy in intermediate risk prostate cancer
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Objective. Intermediate risk patients of prostate cancer are a heterogeneous subgroup, since the probability to develop extraprostatic disease is variable. The treatment of choice is the combination of conformal radiotherapy (CRT)+ Brachytherapy but there are some patients who may benefit from exclusive brachytherapy.