

ing the linear-quadratic model ratios): $V45.4\beta/\alpha$ (assuming the previous $<50\%$, $V54.5 < 35\%$, $V59.0 < 25\%$, $V63.6 < 20\%$, $V68.2 < 50\%$ for rectum; $V59.0 < 50\%$, $V63.6 < 35\%$, $V68.2 < 25\%$, $V72.7 < 15\%$ for bladder; $D_{\max} < 45.4$ Gy for femoral heads; $D_{\text{mean}} < 45.4$ Gy for penile bulb. Valid single VMAT arc plans are generated by the TPS. Target volumes preserve the optimal homogeneity and coverage, as well as OARs maintain their dose–volume parameters under those imposed by QUANTEC: 3.1% , $\pm 4.0\%$, $V63.6 = (6.5 \pm 4.4)\%$, $V59.0 = (8.9 \pm 5.9)\%$, $V54.5 = (11.7 \pm 4.5) = (20.3 \pm 6.5)\%$, $\pm 7.3\%$, $V63.6 = (9.5 \pm 2.4)\%$ for rectum; $V59.0 = (12.2 \pm 4.6)$ Gy for femoral $\pm 4.0\%$ for bladder; $D_{\max} = (35.3 \pm 5.6)\%$, $V72.7 = (2.7 \pm 3.7)$ Gy for penile bulb. Mean treatment time is 310 ± 43 s. \pm heads; $D_{\text{mean}} = 42.3$ VMAT in conjunction with IGRT techniques are powerful tools to cover a hypofractionated prostate cancer treatment program. It is possible to generate optimal plans to treat target volumes as well as to accomplish QUANTEC constraints. VMAT treatment technique allows the delivery of the treatment in a single arc, with a significant reduction in treatment time.

<http://dx.doi.org/10.1016/j.rpor.2013.03.606>

Inverse planned IMRT use in a rural community radiation oncology unit

J. Tisaire¹, W. Tourkmani², M. Rozas³, I. Azinovic⁴

¹ Instituto Oncologico de Castilla La Mancha (IOCLM) Alcazar de San Juan, Oncologia Radioterapica, Spain

² IOCLM, Alcazar de San Juan, Oncologia Radioterapica, Spain

³ IOCLM, Alcazar de San Juan, Radiofisica, Spain

⁴ IMO Group, Medical Director, Spain



Introduction. The National Radiotherapy Advisory Group (NRAG) of the U.K. recommended that 24% of all radical fractions (32% of patients) should be delivered with inverse planned IMRT as target for quality radiotherapy care indicator.¹

Objective. To analyse the inverse planned IMRT (IP-IMRT) pattern in our center and compare the results to the NRAG recommendations.

Patients & methods. The radiation oncology unit at Alcazar de San Juan covers a population of 203.233 in-habitants censored in 2011. From Jan to Dec 2011 a total of 344 patients were referred for radiation therapy, 106 of these with palliative intent and were excluded as IP-IMRT was not used for palliation.

Results. 36.9% of patients (88 out of 238) received IP-IMRT with radical intent (define as exclusive & pre or postoperative radiotherapy), accounting for 31.7% of the total number of fractions administered. The technique used was hypofractionated SIB-IMRT in 71.5% of pts and a standard fraction one phase IMRT in 27.3%. According to primary tumor localization the IP-IMRT distribution was: Prostate 42%, rectal cancer 32% (SIB-IMRT dose escalation study), HNC 15%, Gynecologic cancers 8%. The IMRT use by tumor site was: Prostate 100%, Rectal 82%, HNC 76%, Gynecol 77%. Distribution by treatment intention was as follows: RT only 34.5%, preoperative 32%, postoperative 23%, cancer local relapse 11%.

Conclusion. Use of IP-IMRT in our center is quite similar to the NRAG recommendations and greater than the 9.9% (8.5% IP-IMRT + 1.4% VMAT) of a recent survey in the UK² or the 6.2% use in France.³ This benchmarking study allows us future comparisons in changing scenarios as reimbursement modifications or economical constraints.

REFERENCES

1. Cooper T. Implementation of IMRT: Lessons learned and implications for the future. *Clin Oncol* 2012;24:539.
2. Mayles WPM. Progress with IMRT implementation in the UK. *Clin Oncol* 2012;24:543.
3. Situation de la Radiotherapie en 2011. INCa; Juin 2012.

<http://dx.doi.org/10.1016/j.rpor.2013.03.607>

Keloid as a Bening disease in adjuvant radiation therapy

A. Vila Capel, J. Perez-alija, C. Camacho, J. Vilar, N. Artola, J. Julia, A. Pedro
Hospital Plató, Oncologia Radioterapica, Spain



Purpose. Keloid represents a significant bother for patients and a therapeutic challenge. We present adjuvance with electron therapy after surgical excision with curative intention.

Materials and methods. Since May – 2007, we treated 20 keloids in 19 patients. Mean age was 38.5 years (interval 16–80). Twelve females and 8 males were irradiated with a maximum of 4 h after surgery. The radiotherapy was delivered using a Clinac 2100 (Varian MS-Palo Alto). Beam energy was 6 MeV, with a 4-mm thick aluminum foil 4-mm thick covering the end of the electron applicator, used as a spoiler. Doses of 15 Gy in 5 fractions of 300 cGy/d. were delivered. A 0.5 cm margin around the surgery excision was included within the treatment field, taking account that a thin lead mold should be placed around the scar on the skin, at least 1 cm inside the optical field in order to reduce the beam penumbra. To evaluate results and impact a photograph was taken before surgery and at the beginning of therapy, and also every year during the follow up (follow-up interval: 4–68 months).