EP-1314 Breast treatments with Axxent equipment.Comparison with Mammosite for skin, lung and heart dose.

A. Gandía[1], S. Lozares[1], J.A. Font-Gómez[1], G. Molina[2], R. Ibañez[2], M.C. García-Mur[3], D. Villa[1]
[1]*H.U. Miguel Servet, Física y Protección Radiológica, Zaragoza, Spain*
[2]*H.U. Miguel Servet, Oncología Radioterápica, Zaragoza, Spain*
[3]*H.U. Miguel Servet, Radiología, Zaragoza, Spain*

Purpose or Objective

We have treated 250 patients at our center from May 2015 to September 2017 for breast cancer with Axxent (Xoft Inc.) intraoperative radiotherapy (IORT) following the inclusion parameters of the TARGIT study, in this work we compare the doses in the skin of the first 150 patients treated with the 50 kVp source with the skin doses they would have received using the Mammosite kit using an Ir192 source.

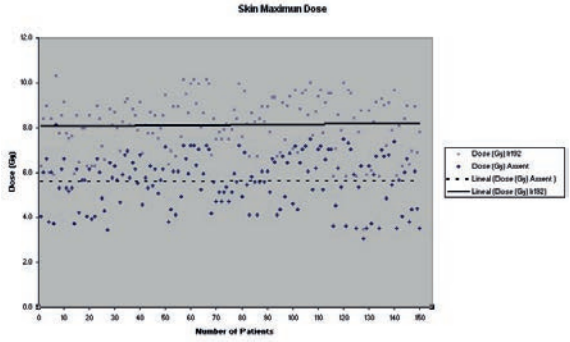
Material and Methods

To the 250 patients treated in our center after removing the tumor, the appropriate balloon size is chosen to cover the tumor area with a dose of 20 Gy on the balloon surface, the sizes used range from 30-65 cm3, after which it is verified that the distance to skin from the 3 closest points of the balloon is less than 10 mm and then the treatment is carried out with an average duration of 10.3 minutes being the volumes of 30 and 35 cm3 the most used due to the inclusion criteria of the procedure. Treatment plans are previously performed in a Brachyvision treatment planning system (TPS) (Varian Inc.) for each of the possible volumes. In turn, another plan is calculated with the Mammosite applicator and Ir192 source, from which the skin dose of each control point is estimated, compared to our results. We present also the cases of acute dermatitis seen for these first 150 patients in a time less than 6 months after the surgical act and irradiation.

Results

The differences in maximum skin dose for both types of treatment are 8.1 ± 1.2 Gy for the case of Mammosite and 5.7 ± 1.5 Gy for patients treated with electronic source, due to the difference in the depht dose percentage of both types of treatment (Image 1). This, in turn, explains the very few cases of acute dermatitis at 6 months (8 cases of grade 2 and 2 cases of grade 3) (Image 2) with no recurrence to date.We also show the mean and maximum doses (expressed as percentage of prescribed dose) for the left lung and heart in cases of left breast tumor for the volumes of 30 and 35 cm3, which are the most common volumes in our hospital (70% of cases):

LEFT LUNG (Left Breast tratment)	AXXENT	MAMMOSITE
Maximun Dose (%PD)	20.4%	29.9%
Mean Dose (%PD)	1.0%	3.9%
HEART (Left Breast tratment)	AXXENT	MAMMOSITE
Maximun Dose (%PD)	4.1%	10.4%
Mean Dose (%PD)	0.8%	3.3%



Acute Dermatitis(<6 months)

Balloon Volume(cm^3)	Grade 0	Grade 1	Grade 2	Grade 3	Total	%
30	39	11	2	1	53	37%
35	37	9	0	1	47	33%
40	24	5	2	0	31	22%
45	9	1	4	0	14	10%
50	5	0	0	0	5	4%
Total	114	26	8	2	150	
N=150 patients	80.3%	18.3%	5.6%	1.4%		

Conclusion

It is concluded that the IORT treatments performed with the Axxent equipment with electronic source are a good alternative to those performed with Ir192 and our 250 patients treated to date to the good results presented by other centers are joined.In addition to the low skin toxicity, there is no recurrence in patients treated so far, which makes us very optimistic about the results.

EP-1315 KORTUC phase I/II trial testing a novel radiation sensitiser in breast cancer: preliminary results

S. Nimalasena[1], L. Gothard[2], G. Kothari[3], S. Allen[4], V. Sinnett[5], A. Musallam[6], A. Kirby[7], G. Ross[3], C. Lucy[7], F. Castell[8], S. Cleator[9], I. Locke[7], E. Sawyer[10], D. Tait[7], C. Westbury[11], V. Wolstenholme[12], C. Box[13], S. Robinson[13], J. Yarnold[13], N. Somaiah[1]
[1]*The Institute of Cancer Research and The Royal Marsden NHS Foundation Trust, Clinical Oncology, Sutton, United Kingdom*
[2]*The Institute of Cancer Research, Clinical Oncology, Sutton, United Kingdom*
[3]*The Royal Marsden Hospital NHS Foundation Trust, Clinical Oncology, London, United Kingdom*
[4]*The Royal Marsden Hospital NHS Foundation Trust, Radiology, London, United Kingdom*
[5]*The Royal Marsden Hospital NHS Foundation Trust, Radiology, Sutton, United Kingdom*
[6]*The Royal Marsden Hospital NHS Foundation Trust, Pharmacy, London, United Kingdom*
[7]*The Royal Marsden Hospital NHS Foundation Trust, Clinical Oncology, Sutton, United Kingdom*
[8]*King's College Hospital NHS Foundation Trust, Clinical Oncology, London, United Kingdom*
[9]*Imperial College Healthcare NHS Trust, Clinical Oncology, London, United Kingdom*
[10]*Guy's and St Thomas' NHS Foundation Trust, Clinical Oncology, London, United Kingdom*
[11]*Mount Vernon Cancer Centre, Clinical Oncology, London, United Kingdom*
[12]*Barts Health NHS Trust, Clinical Oncology, London, United Kingdom*
[13]*The Institute of Cancer Research, Radiotherapy and Imaging, Sutton, United Kingdom*

Purpose or Objective

To test the safety & efficacy of 0.5% hydrogen peroxide in 1% sodium hyaluronate gel (KORTUC) delivered by intratumoural injection twice-weekly during external beam radiotherapy (RT) to patients with locally advanced/recurrent breast cancer with or without associated distant metastases.