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Prostheses irradiation in breast cancer: clinical and aesthetic outcomes in retrospective series

D. Smaniotto¹, V. Masiello¹, F. Beghella Bartoli¹, L. Boldrini¹, G. Mattiucci¹, F. Marazzi¹, S. Manfrida¹, A. Di Leone², G. Franceschini², R. Masetti², V. Valentini¹

¹Policlinico Universitario Agostino Gemelli- Catholic University, Radiation Oncology Department - Gemelli ART, Roma, Italy

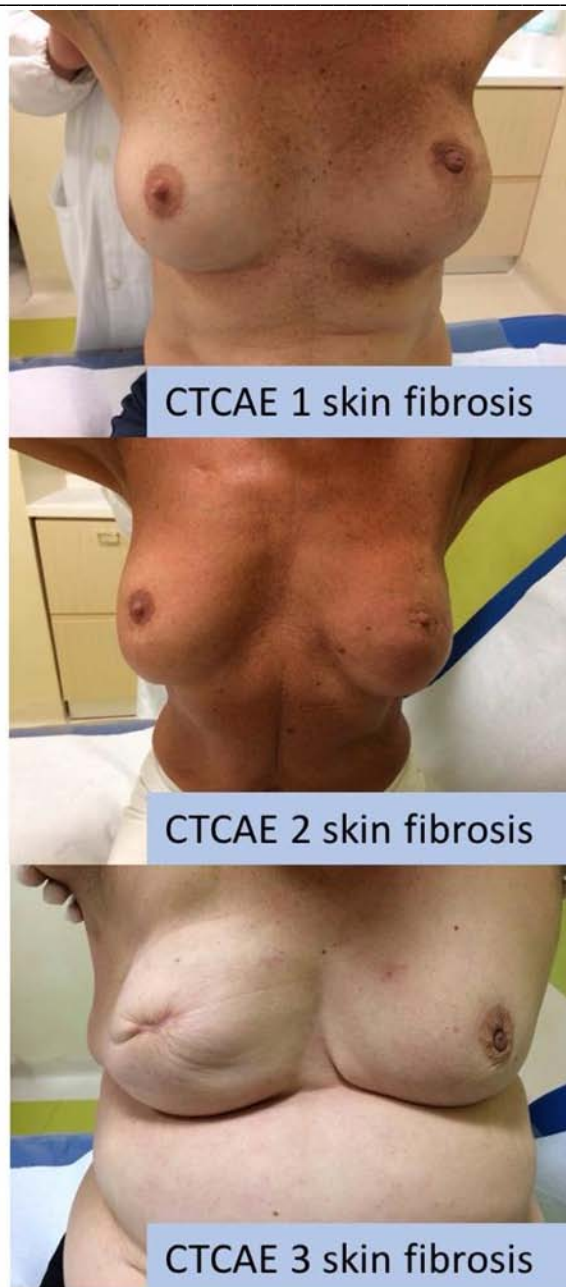
²Policlinico Universitario Agostino Gemelli- Catholic University, UOC Breast Surgery, Roma, Italy

Purpose or Objective: Post-mastectomy radiation therapy (RT) is a prophylactic adjuvant treatment for high risk patients with breast cancer. Mammary prostheses or expanders often do not tolerate RT causing a reduction of aesthetic profile and, even more, an exposure to clinical risks or new surgery. In this retrospective study clinical and aesthetic results were quantified in patients who did or did not undergo adjuvant RT after reconstruction for breast cancer

Material and Methods: Patients who underwent mastectomy with immediate mammary reconstruction for breast cancer and who had a follow-up (FUP) period of at least six months were selected for this retrospective study. Two subgroups were defined between irradiated or not patients. All the patients were submitted to the scheduled surgical and oncologic FUP and the irradiated ones underwent also a RT FUP program. For both groups local infection rate (IR), lipofilling rate (LR), reconstruction with DIEP flap rate (DIEPR), local control (LC) and distant failure rate (DFR) were analyzed. All chi square tests were performed on MedCalc. For the irradiated patients acute and late toxicities were also registered according to CTCAE v4.0 scale

Results: From January 2012 to April 2015, 152 patients underwent mastectomy with prostheses or expanders. Out of them, 76 pts were candidates to standard adjuvant RT for high risk factors, according to NCCN guidelines. Mean age was 48 years (range 32-74). Median FUP was 28 months (range 6-44). IR, LR, DIEPR are reported in Table 1. 21% of not irradiated pts underwent second surgery to replace the expander with the prostheses. LC was equal in both group. High risk pts had higher DFR than low-medium risk ones (5.26% vs 0 with p<0.05). Regarding irradiated patients acute skin toxicities G0, G1, G2 and G3 were 38%, 40%, 12% and 9.8% respectively. We reported late skin toxicities rates of: G0 20%, G1 28%, G2 42% and G3 10% (Figure 1).

	Adjuvant RT	No adjuvant RT	Chi square test
Lipofilling rate	10 (13,1%)	16 (21%)	1.2 (p<0,01)
DIEP flap rate	15 (19,7%)	7 (9,2%)	2.5 (p<0,01)
Infection rate	1 (1.3%)	1 (1.3%)	0



Conclusion: In this preliminary analysis RT after mastectomy with breast reconstruction resulted well tolerated and can ensure to high risk patients local control rates comparable to low-medium risk patients in the early FUP. A longer period of observation and specific Quality of Life questionnaires are needed to better describe the results

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Prone whole breast irradiation: multimodal imaging for target delineation

A. Huscher¹, M. Centurioni¹, L. Donadoni¹, D. Santus², A. Soregaroli², C. Bassetti³, A. Zaniboni⁴, M. Bignardi¹

¹Poliambulanza Foundation, Radiation Oncology Unit, Brescia, Italy

²Poliambulanza Foundation, Radiology Department, Brescia, Italy

³Poliambulanza Foundation, Medical Physics, Brescia, Italy

⁴Poliambulanza Foundation, Oncology Department, Brescia, Italy

Purpose or Objective: Whole breast clinical target volume (CTV) contouring rules have been defined for supine set-up. The same indications do not seem to fit properly for prone set-up and no clear definition could be found nowadays in