



Viewpoints and debate

Short commentaries on data published by Petit et al. on locoregional risk after lipofilling in breast cancer patients

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ABSTRACT

Lipofilling is becoming part of the breast reshaping after quadrantectomy or mastectomy in breast cancer patients, but there are open questions of its safety.

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Petit and colleagues¹ have recently published on *Annals of Oncology* a very interesting paper concerning data on locoregional recurrence risk after lipofilling in breast cancer patients undergone either mastectomy or quadrantectomy.

From 1997 to 2008 a total of 321 patients (pts.) were included in the study. The Authors compared the study group to a control group. Age, year of surgery, type of surgery, histology, pathological tumor size and estrogen receptor status were considered to assure homogeneity between the study group and the control group.

Median time from oncological surgery to lipofilling was 26 months (range 2–128 months) and overall median follow up was 56 months from primary surgery and 26 from lipofilling.

The authors have shown that there are no differences in terms of cumulative local relapses or invasive cancer even stratifying pts. according to type of surgery (mastectomy or quadrantectomy).

On the contrary, the lipofilling group resulted at higher risk of local events (three pts.) compared with the control group (0 pts) when the analysis was limited to DIN and LIN.

These results have to be considered very important but the debate is still open.

No randomized trial is actually started, long follow up are not available at the moment, and a larger number of patients is required.

We ask if the type of therapy given to the patients could have any influence on local relapses in both series.

The majority of the patients in both groups were estrogen/progesterone receptor positive so we suppose that those patients were treated with hormonal therapy. The authors do not clarify if patients received hormonal therapy or if they were still under hormonal therapy at the time of local relapses.

The authors have not reported any data on presence of intraductal component of the specimens and the distance from the margins.

In our institute, Fondazione Maugeri Pavia, we started with lipofilling in breast cancer patients undergone either mastectomy or quadrantectomy in 2008 and we can count 211 pts. up to December 2011.

We just started to review our series according to Petit's paper. A control group has been already identified. Age, year of surgery, type of surgery, histology, pathological tumor size and estrogen receptor status are still under investigation as well as presence of intraductal component of the specimens and primary therapy done by patients of both series.

Preliminary results have shown no difference on local relapses in lipofilling cohort as in control group. These data are different by those presented by Petit and colleagues.

Coming up with this study we already started to investigate genomic profile of stem cells and potential interaction with breast cancer tissue.

In order to better investigate the matter of lipofilling, our Breast Unit started on 2010 the purification of mesenchymal stem cell from fat tissue of breast cancer patients.

With the intent to explore the biological ramification of the lipofilling procedure in the context of breast cancer we set a protocol

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for isolation and characterization of autologous stem cells (ASCs) derived from lipoaspirates of human donors, undergoing lipofilling for breast modeling after cancer resection. Preliminary analyses confirmed the mesenchymal origins of isolated cells and stemness profile. Potential interactions occurring between ASCs and breast cancer cells, accounting for potential side effects of fat graft transplantation are currently under investigations.

We will soon present the results of our analysis and will be interesting to clarify if, after stratification of the two cohorts of patients, our results will go in the same direction of Petit's study or no evidence of higher local relapses after lipofilling.

A prospective randomized multicentric study with a longer follow up and a larger number of patients are required to clarify this debate.

Conflict of interest statement

None declared.

Reference

1. Petit JY, Botteri E, Lohsiriwat V, Rietjens M, De Lorenzi F, Garusi C, et al. Locoregional recurrence risk after lipofilling in breast cancer patients. *Ann Oncol* 2012 Mar;**23**(3):582–8 [Epub 2011 May 24].