Fat transfer / lipomodelling/ lipofilling in breasts

a precis by
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Since its first description in 1893 when fat was transferred from a patient's upper arm to cheek, fat transfer has been used for both cosmetic and reconstructive purposes in the face and other parts of the body. In the breast, it is widely used for correction of irregularities after post-mastectomy breast reconstruction. However, it's use in the presence of breast tissue has been controversial.

Fat transfer involves removing fat in an atraumatic way from parts of the body such as hips, abdomen and thighs, concentrating it and re-injecting it into the breast either to enhance its volume usually by a cup size for breast augmentation or to fill small defects after breast cancer lumpectomy surgery. Great care has to be taken to transfer fat into the subcutaneous or intrapectoral planes and *not to inject fat into the breast tissue itself*. As the fat can re-absorb by 30- 40%, two or more 'top-up 'operations may be required. On MRI or mammograms, the resorption can be seen as calcification. A trained radiologist can distinguish between microcalcification arising from fat transfer and breast cancer. However, there is limited scientific evidence regarding the effect of stem cells, contained within the transferred fat, on breast cancer. Studies in the laboratory have shown that presence of stem cells favour the growth of tumour cells, but this has not yet been substantiated by clinical trials. The American Society of Plastic Surgeons (ASPS) has advised mammograms before and after fat transfer to provide re-assurance to the patient regarding any new abnormalities that may develop.

For patients with lumpectomy defects, it is important to exclude any breast cancer recurrence prior to fat grafting and a discussion of the patient at the local Multi-Disciplinary Team is useful. *Patients with high risk of local recurrence may not be good candidates*. After treatment with fat transfer, these patients are routinely followed up with mammograms as part of their cancer follow-up.

For cosmetic patients, it may be prudent to have a baseline mammogram/ MRI prior to fat transfer and follow-up for atleast a year and, they should be made aware to report back in case of any problems. The American Society of Plastic Surgeons advises against fat transfer in cosmetic patients at high-risk of breast cancer such as those with personal or familial history of breast cancer and/or BRCA-1, BRCA-2 gene inheritance.

In the UK, guidelines from the Breast Interface group (BAPRAS and BASO) were published in 2012 are available on the link:
http://www.bapras.org.uk/downloaddoc.asp?id=666.

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