

## Immediate autologous fat grafting after breast conserving surgery: Evaluation of oncologic safety and cosmetic outcome

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### Introduction

Breast cancer is the most frequently diagnosed life-threatening cancer in women and the leading cause of cancer related death among women. Overtime, breast cancer surgical management evolved from the more invasive radical mastectomy to modified radical mastectomy to breast conservative surgery. Oncoplastic breast surgery emerged after integration of oncologic principles with plastic techniques to achieve better cosmetic outcomes. Oncoplastic breast surgery consists of volume displacement and volume replacement techniques. Current volume replacement techniques are associated with donor site morbidity and scarring. In the literature, we aim to assess immediate lipofilling as an alternative option for volume replacement .

### Aim of the work

The aim of the present work is to assess fat graft viability, oncological outcome of the whole procedure and cosmetic outcome in view of physician and patient satisfaction in patients with breast cancer undergoing breast conservative surgery and immediate lipofilling.

### Subjects

After approval of the medical ethics committee of Alexandria Faculty of medicine, an informed consent was taken from all patients to include their data in this study. The study will include twenty female patients presenting with early breast cancer (stage I, II) who are candidate for breast conservation surgery and who are admitted in the Alexandria Main University hospital, surgical oncology unit from December 2019 to January 2021.

### Methods

Breast conservative surgery with appropriate axillary management was performed. During frozen section time the abdomen was infiltrated with tumescent solution and fat harvesting was performed followed by processing. After confirmation of free safety margins the lumpectomy cavity was approximated with interrupted stiches then fat grafting was performed. Finally, a suction drain was inserted and the wound was closed in layers.

#### Exclusion criteria:

Stage III or IV breast cancer  
All contraindications to BCS  
Patients refusing BCS  
Patients refusing lipofilling  
Collagen vascular disease  
Breast cancer in pregnant women

### Results

Table (I) Distribution of the studied cases according to demographic data (n = 20)

	No.	%
Age		
<50	9	45.0
≥50	11	55.0
Min. – Max.	27.0 – 70.0	
Mean ± SD.	49.35 ± 11.26	
Median (IQR)	51.0 (40.5 – 57.5)	
Marital status		
Single	1	5.0
Married	19	95.0

IQR: Inter quartile range SD: Standard deviation

Table (VIII) Distribution of the studied cases according to operative data (n = 20)

Operative data	No.	%
Site of fat harvesting		
Abdomen	20	100.0
Weight resected (gram)		
Min. – Max.	65.0 – 160.0	
Mean ± SD.	94.75 ± 30.141	
Median (IQR)	86 (70.5 – 115.0)	
Volume injected (cm <sup>3</sup> )		
Min. – Max.	90.0 – 150.0	
Mean ± SD.	118.0 ± 19.08	
Median (IQR)	120.0 (100.0 – 130.0)	

IQR: Inter quartile range SD: Standard deviation

### Conclusions

Immediate fat grafting is a promising technique for reconstruction after BCS. It can reduce the performance of major flaps thus preventing donor site morbidity and scarring ,and also it can reduce a delayed procedure for symmetrization. It is associated with high amount of patient and physician satisfaction. It does not seem to have any effect on local or systemic recurrence, however follow-up time and sample size was not enough to conclude its oncologic outcome.