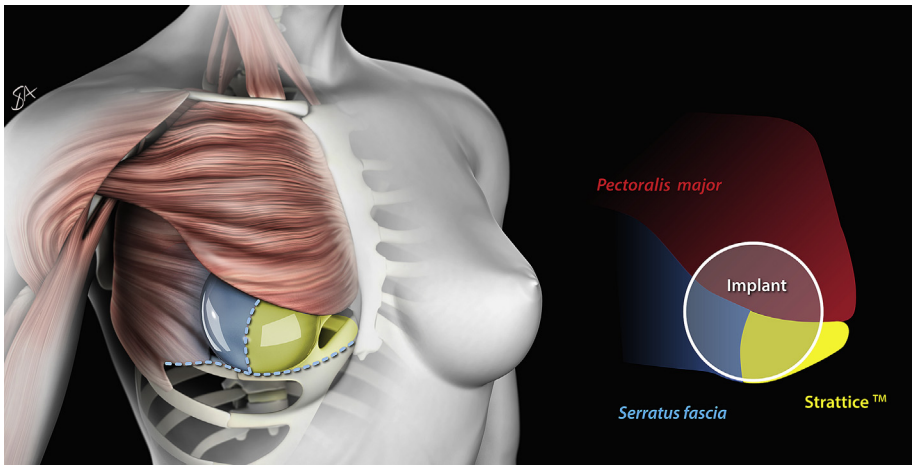

Figure 2 An illustration of serratus fascia in use in strattice™ and implant based breast reconstruction.

Since the introduction of ADM in breast reconstruction its use has significantly grown. Several advantages including better pocket control, reduced implant visibility and improved implant coverage have been attributed to its use. In our experience combination of serratus fascia and strattice™ provides an improved lateral pocket control. The serratus fascia has been successfully used in breast augmentation and reconstructive surgery for expander implant and as an autologous conjoint fascial flap to cover implants in breast reconstruction[1–3] however, it's use in combination with strattice™ has not been described before.

Anatomically, the serratus fascia is the continuation of pectoralis fascia superomedially, rectus fascia inferomedially and axillary fascias superiorly. The serratus fascia offers several advantages. It is readily available and provides well vascularised autologous tissue which can be used for inferolateral coverage of an implant. It is robust, yet more expandable than Strattice therefore yielding a more aesthetically pleasing breast contour (Figures 1–2). Since the dissection is straightforward it does not add any significant time to the surgery or morbidity as the underlying Serratus muscle is left untouched. In patients with small to medium size breasts incorporation of serratus fascia also reduces the amount of strattice™ required for implant coverage, potentially curtailing the cost especially in patients undergoing bilateral immediate breast reconstructions since one piece can be halved and used for both breast.

The senior author has used the Serratus fascia in 42 breast reconstructions in 31 patients (since 2011) without complication. In summary the Serratus fascia provides good pocket control and aesthetically pleasing contour in immediate implant and strattice™ breast reconstruction with minimal additional dissection or morbidity.

Conflict of interest

Authors have no conflict of interest.

Acknowledgement

We would like to thank Steve Atherton (Medical Illustration department, Morriston Hospital, Swansea).

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http://dx.doi.org/10.1016/j.bjps.2015.05.042

Comparison of perioperative outcomes of autologous breast reconstruction surgeries☆

Dear Sir,

Over the last decade, there has been a significant increase in the number of breast reconstructions performed after

☆ 1. This study was presented as oral presentation at the California Society of Plastic Surgeons 64th Annual Meeting, May 25, 2014, at the Marriott Hotel & Spa, Newport, California. 2. This study was presented as part of poster presentation session at the American Association Plastic Surgeons 92nd annual meeting, April 20-23, 2013, at the Roosevelt Hotel, New Orleans, Louisiana.

mastectomy, with a substantial portion of these procedures utilizing autologous tissue.[1] The purpose of this study was to conduct a multicenter analysis of autologous breast reconstruction using the National Inpatient Sample (NIS) database to compare the various methods of autologous breast reconstruction with respect to (1) incidence of perioperative complications and (2) economic impact as defined by length of hospital stay and related hospital charges.

Using the NIS database, discharge data related to patients who underwent autologous breast reconstruction surgery from 2009 until 2010 was analyzed. We used the International Classification of Disease ninth revision, Clinical Modification (ICD-9-CM) procedure codes for autologous breast reconstructions including the latissimus dorsi myocutaneous flap (LDF), the pedicled transverse rectus abdominis myocutaneous flap (P-TRAM), the free transverse rectus abdominis myocutaneous flap (F-TRAM), the free deep inferior epigastric artery perforator flap (DIEP), the free superficial inferior epigastric artery flap (SIEP), the free gluteal artery perforator flap (GAP) and others including non-otherwise specified to identify patient populations. Preoperative factors that were analyzed are described in Table 1. Postoperative complications, length of hospital stay and total hospital charges among different types of autologous breast reconstructions were compared. Chi-square and t-tests were performed with SAS version 9.3. Statistical significance was achieved at a p-value <0.05.

During 2009 to 2010, a total of 35,883 patients underwent autologous breast reconstruction in the United States, the majority of which were performed at teaching hospitals (74.3%). The most common breast reconstruction type was the LDF (29.4%) and the least common was the GAP flap (0.6%) (Table 1). The lowest perioperative complication rate was observed in the LDF group (7.6%) and the highest in the SIEA flap group (19.6%) (Table 2). The shortest, mean length of hospital stay was 2.9 days in LDF group, and the lowest, mean total hospital charges were also observed in the LDF group ($44,873).

This study highlights the LDF as the most commonly used reconstructive method compared to the alternative pedicled and free flap techniques. The popularity of LDF can be attributed to several factors including the relative simplicity of the procedure, reliability of its blood supply and decreased postoperative morbidity.[2] In a recent study by Gart et al.[3] examining outcomes of autologous breast reconstruction in 3296 patients, the LDF constituted 32.7%

Table 1 Characteristics of patients who underwent autologous breast reconstruction in the United States in 2009–2010.

Characteristics	LDF	P-TRAM	F-TRAM	DIEP	SIEA	GAP
Number	10,564	7245	6554	8152	305	200
%	29.4%	20.2%	18.3%	22.7%	0.85%	0.56%
Age (year)						
Mean	52.1 ± 10.6	51.6 ± 9.5	50.8 ± 9.2	49.6 ± 8.7	48.8 ± 8.2	50.0 ± 9.6
Median	52	52	51	50	48	50
Mode	52	52	47	52	47	40
Over 65 (%)	12.7	9.0	7.2	3.9	1.8	7.3
Race (%)						
White	72.7	70.5	69.9	71.5	72.9	91.3
Black	12.2	12.5	13.0	10.0	3.3	2.8
Hispanic	7.5	10.0	9.6	10.9	11.0	2.5
Asian＼Islander	1.9	3.5	3.8	3.7	3.4	3.4
Native American	0.30	0.40	0.19	0.23	0.0	0.0
Other	2.4	3.1	3.5	3.6	9.4	0.0
Comorbidity (%)						
Diabetes mellitus	7.7	6.0	6.7	4.8	1.5	2.2
Hypertension	26.1	27.6	25.3	21.4	22.4	12.2
CHF	0.74	0.44	0.30	0.20	0.0	0.0
Chronic lung disease	10.3	7.1	7.5	7.0	8.4	4.8
Chronic kidney disease	0.34	0.33	0.15	0.18	0.0	0.0
Liver disease	0.41	0.41	0.94	0.44	0.0	0.0
PVD	0.56	0.28	0.38	0.26	1.5	0.0
Smoker	17.5	15.5	15.9	11.7	16.2	10.7
Obesity	7.7	5.7	7.3	7.7	4.8	2.2
Teaching hospitals (%)	66.1	72.1	75.9	85.1	95.5	77.7
Immediate reconstruction (%)	31.2	41.2	41.6	43.3	50.8	45.7
Prior chemotherapy (%)	4.5	6.7	5.4	5.0	4.7	5.0
Prior radiation (%)	14.2	14.1	9.2	9.0	4.6	6.6

LDF indicates latissimus dorsi myocutaneous flap; P-TRAM, Pedicled transverse rectus abdominis myocutaneous flap; F-TRAM, Free transverse rectus abdominis myocutaneous flap: DIEP, Free deep inferior epigastric perforator flap; SIEA, Free superficial inferior epigastric artery flap; GAP, Free gluteal artery perforator flap; CHF, Congestive heart failure; PVD, Peripheral vascular disease, US, United States.