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Immediate breast reconstruction in the West Midlands: a survey of current practice

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Summary Immediate reconstruction (IR) of the breast following mastectomy is not available to all appropriate patients. Previous studies have examined general surgeons attitudes toward reconstruction but have not assessed how these translate into surgical practice. We investigated the current rates of referral for, and availability of, IR across the West Midlands region.

A postal questionnaire was sent to all breast surgery units in the region. Out of 20 units 19 responded. Units where IR was performed in-house were likely to have more breast surgeons (2.3 vs. 1.5, $p = 0.0106$), and a higher annual workload (222 new cases vs. 174). Only two of 19 surgeons said they did not discuss IR with appropriate patients. Selection criteria in the other units included age, lack of co-morbidity, favourable pathology, smoking habit, and in one unit, only small-breasted women were offered IR.

IR is performed in 13 of 19 units. Reconstructive procedures range from implants to deep inferior epigastric artery perforator (DIEP) flaps; the surgery is performed by breast and plastic surgeons together in seven units, breast surgeons alone in five and plastic surgeons alone in one. Six units do not carry out reconstruction. These units referred between two and 10 patients (average five) for IR in 2001. Units where some types of IR were available referred between three and 35 patients for surgery not performed in-house, and there was no relationship between complexity of surgery available in-house and referral rates.

Reasons for low referral rates included: surgeons' attitudes; geographical isolation; long waiting times for plastic surgical opinion and for surgery; and loss of control of patients' management. Although surgeons' attitudes in the West Midlands are generally positive toward IR, availability and referral rates vary widely. Reconstructive surgeons should encourage referrals by increasing contact with general surgeons to overcome logistical problems and by ensuring appropriate systems for referral exist.

Immediate reconstruction (IR) of the breast following skin sparing mastectomy has been shown to be oncologically safe,[1–4] psychologically beneficial[5,6] and cost effective[7] but it is not uniformly available across the UK. The aim of this study was to assess variations in accessibility to IR in the West Midlands region and identify areas where reconstructive services are less readily available and the reasons for this.

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Methods

A postal questionnaire was sent to the lead breast surgeon in each of the 20 breast surgery units within the West Midlands region, in December 2001, with a reminder sent 1 month later.

Results

Nineteen of 20 units replied at a response rate of 95%. The one unit that did not reply had no active specialist breast surgeon at the time of the survey.

Workload

There were between one and three breast surgeons per unit (average two), and the annual workload in terms of new breast cancers seen per year ranged from 108 to 350 (total 3923, average 206) per unit. The number of surgeons per unit was significantly higher in units where reconstruction was performed: 2.3 vs. 1.5 ($p = 0.0106$ using nonparametric Mann–Whitney test). The number of new cases per year was also higher in these units, 221.5 vs. 173.8 but this difference was not significant statistically ($p = 0.1218$).

Discussion with patients

In 17 (89.5%) of units, surgeons stated that they discuss reconstruction with appropriate patients, even if the surgery is not performed in that unit. In the two remaining units, IR is neither performed nor usually discussed; one of the surgeons disagrees with IR in principle, and another surgeon believes it only to be appropriate for noninvasive disease. Three units (16%) have a policy of discussing IR with all patients requiring a mastectomy. In 12 (63%), discussion is selective, depending on pathological features, age, co-morbidity, and smoking habit (Table 1). Three units (16%) offer IR only to patients with noninvasive disease and one only to patients with small breasts. This unit performs only implant reconstructions.

Table 1 Selection criteria for patients offered immediate reconstruction

Selection criteria	Number of units using criteria (%)
Age <70 years	10 (53)
Pathology favourable	12 (63)
Lack of co-morbidity	9 (47)
Nonsmokers	1 (5)
Small breasts	1 (5)

Units performing immediate reconstruction

Immediate breast reconstructive procedures are performed in 13 units (68%). Geographically, these units are spread across the region, with no concentration in any one particular area. The type of reconstructive procedures performed ranges from expander implants, available in all, to deep inferior epigastric artery perforator (DIEP) flaps, performed in two (Table 2). Eleven units provide latissimus dorsi (LD) myocutaneous flap reconstruction and eight carry out transverse rectus abdominis myocutaneous (TRAM) flaps. Two units perform only implant surgery. In two other units TRAM flaps are performed, but follow-up procedures, such as reduction mammoplasty, mastopexy, and nipple reconstruction are not available in-house.

Operations are performed by breast and plastic surgeons working together as a team in seven units (54%), by breast surgeons alone in five units (39%), and by plastic surgeons alone in one unit. Four units (31%) run both combined operating lists and clinics and in two units there is combined operating only. In one unit plastic surgeons attend multidisciplinary team meetings and operate in combination with breast surgeons and in a further unit the plastic surgeons attend the meetings but operate alone (Fig. 1). In two of the five units where breast surgeons operate alone, all the procedures listed in Table 2 except DIEP flaps are performed in-house and in a further two TRAM and DIEP flaps are not available.

Six units responded to a supplementary question on actual numbers of operations for IR performed in 2001 (Table 3). One unit had performed no immediate reconstructive procedures, as their service had been newly set up when the questionnaire was sent to them in December 2001. A total of 76 procedures, seven (9%) of them bilateral, were performed. The majority of these (70%) were LD flaps. These numbers compare to a total of 1545 mastectomies performed across the region in the

Table 2 Procedures for immediate reconstruction performed within the unit

Procedure	Number of units performing procedure
Implants	13
Latissimus dorsi myocutaneous flap	11
TRAM flap	8
DIEP flap	2
Symmetry procedures	10
Nipple reconstruction	9
Areolar tattooing	10

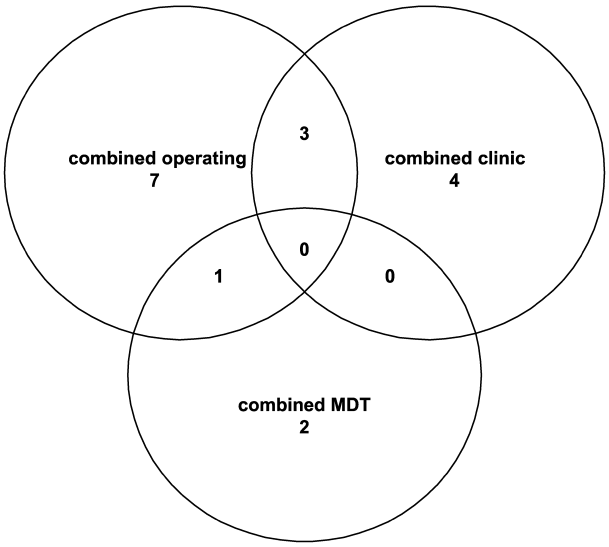

Fig. 1 Joint working between breast and plastic surgeons.

12-month period 1st April 2000 to 31st March 2001 (data from West Midlands Cancer Intelligence Unit).

Immediate reconstruction performed outside the unit

Six units in the West Midlands region do not perform any immediate breast reconstruction. As stated earlier, these units tend to be smaller in terms of surgical workforce and new patient numbers. Three of these units have formal referral arrangements for patients requiring IR; the remainder rely on informal referrals by and to individual surgeons. Three units refer patients to a plastic surgeon, one to a breast surgeon and two to a combined team. The number of patients referred externally by these six units in 2001 ranged from two to 10, average five.

Of the 13 units performing IR, six perform all the procedures listed in Table 2. Five of the seven remaining units refer patients externally for procedures not available in-house. The number of patients referred in 2001 ranged from three to 35 (median 10). There was no correlation between the complexity of reconstructive surgery available in-house and the number of patients referred externally; the unit referring 35 patients performed both implant and LD flap surgery, and one unit referring four patients performs only implant reconstructions (Table 4).

Six units identified difficulties in making external referrals. Five cited long waiting times for an opinion or for surgery, and one identified the journey (45 miles each way) to the plastic surgical unit as a problem for patients and for the breast surgeon, who travels to the plastic surgery unit to perform the mastectomy. Two surgeons expressed disquiet that referral for reconstruction often involves the transfer of all the patient's management to the accepting unit, including the oncological follow-up.

Table 3 Operations for immediate reconstruction performed in 2001

Unit	Number of procedures performed in 2001				
	Implant	LD flap	TRAM flap	DIEP flap	Total
1	0	19 (3)[a]	11 (3)	0	30 (6)
2	2	2	0	0	4
3	0	0	0	0	0
6	2	16	1	4 (1)	23 (1)
9	0	2	0	0	2
12	0	6	2	0	8
16	1	8	0	0	9
Total	5	53 (3)	14 (3)	4 (1)	76 (7)

[a] Figure in parentheses denote bilateral procedures.

Discussion

Immediate reconstructive surgery following mastectomy is not available in one third of breast units in the West Midlands. Generally these units have fewer surgeons and see less new patients.

Although the majority of surgeons (90%) discuss the option of IR, there is a strong tendency to restrict this to selected patients who are younger than 70 years, with minimal co-morbidity and favourable pathology. This contrasts with a recent national survey by Callaghan et al.[8] who found that whilst a similar proportion (88%) of surgeons usually

Table 4 Relation between complexity of IR procedures available in-house and number of external referrals

Procedures performed in-house	Number of external referrals
Implants, LD, TRAM, tattooing	15
Implants, LD, TRAM	0
Implants, LD, symmetry, nipple, tattooing	35
Implants, LD, symmetry, nipple, tattooing	0
Implants, LD, symmetry, nipple, tattooing	3
Implants, symmetry	10
Implants	4

Symmetry = any symmetry procedures e.g. reduction mammoplasty, mastopexy etc.; nipple = nipple reconstruction (any technique); tattooing = tattooing of nipple = areola complex.

or always discussed reconstruction with such patients, 57% preferred delayed to IR. Only two (15%) of our surgeons expressed reservations about IR in principle. Previous studies in 1995 and 1997 have shown an increasing willingness over recent years for breast surgeons to consider reconstruction, though these papers have not distinguished between delayed and IR.[8,9]

The most commonly performed procedure for IR was the LD flap and the next most common the TRAM flap, with very little expander-implant surgery being performed. Of the breast surgeons who are performing their own reconstructive surgery (39% of units), most, in fact 80% are performing myocutaneous flap procedures in preference to implants. This also differs form the national survey.

Team working patterns vary widely. In eight units (62%) where breast and plastic surgeons operate together, none meets the ideal of joint involvement in all aspects of their work including clinics and multidisciplinary meetings. This in no doubt reflects high workloads, and sometimes also the need for the plastic surgeons to travel to units distant from their base hospital.

Despite the acceptance of immediate reconstructive surgery in breast cancer treatment there is limited and variable access to this type of surgery in the West Midlands. In common with the rest of the UK a lack of surgeons with interest and expertise in reconstructive surgery of the breast has resulted in 'postcode' healthcare. Although a national initiative to increase training opportunities in breast oncoplastic surgery is underway, more urgent measures are required to address the current shortfall in treatment.

Breast oncology and plastic surgeons need to be aware of these issues. They can be instrumental in helping to resolve them by training and educating staff about reconstruction and agreeing protocols for referral. As part of the local breast team they should be working with cancer network managers and commissioners to identify resources that will improve opportunities for urgent assessment and treatment for this group of patients.

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