

LETTER TO THE EDITOR

The practice patterns and perceptions of surgeons in Singapore regarding breast-conserving surgery

Dear Editor,

Breast-conserving surgery (BCS) is often the preferred treatment in operable breast cancer.¹ While tumour biology and systemic therapy are major determinants of disease control, surgical effectiveness remains a key factor in ipsilateral breast tumour recurrence.¹ As heterogeneity in surgical approach has been observed, we sought to understand Singaporean surgeons' practice patterns and perceptions. Breast surgeons from Singapore's public and private healthcare institutions were invited to participate in a Dillman's Tailored Design Method online-based survey and their responses are summarised in Table 1. We discuss how surgeons' perception may influence overall management.

Breast surgery landscape in Singapore. Breast surgical practice in Singapore is predominantly sub-specialised, with breast cancer managed mostly by breast surgical specialists rather than general surgeons. A large proportion of specialists are fellowship-trained to develop skills that include oncoplastic and minimally invasive breast surgery (Table 1A).

Diagnostics. Core biopsy is usually the first-line action to obtain histological sampling for diagnosis. Reviews from other countries have reported higher rates of routine diagnostic excisional biopsies.^{2,3}

Preoperative assessment and indications. BCS is defined as complete breast tumour removal with a concentric margin of surrounding healthy tissue, performed in a cosmetically acceptable manner and usually followed by radiation therapy.¹ Once recommended only for unifocal disease, consensus guidelines now describe the only absolute contraindication to be widespread disease, which cannot be incorporated by local excision of a single region or segment of breast tissue that achieves negative margins with satisfactory cosmetic result.⁴ Interestingly, only half of our respondents have adopted this guideline, while 13.6% have conversely begun offering BCS for multicentric disease (Table 1B). The St. Gallen 2017 consensus endorsed technical and cosmetic feasibility of BCS in multiple ipsilateral breast cancer,⁵ and practice is beginning to reflect this.

Intraoperative techniques. There was marked variation in intraoperative surgical technique,

Table 1. Singaporean breast surgeons' practice patterns and perceptions.

(A) Respondent characteristics (n=22), no. (%)			
Duration of specialist experience		Technical expertise	
0–9 years	13 (59.1)	Level 1 oncoplastic volume displacement techniques	18 (81.8)
10–19 years	7 (31.9)	Level 2 oncoplastic volume displacement techniques	11 (50)
20–29 years	1 (4.5)	Oncoplastic volume replacement surgery	9 (40.9)
Over 30 years	1 (4.5)	Contralateral symmetrisation	5 (22.7)
Fellowship-trained	8 (36.4)	Minimally invasive breast conserving surgery (e.g. endoscopic)	3 (13.6)
(B) Indications for surgery (BCS and axillary surgery) (n=22), no. (%)			
Cancer focality and centrality			
BCS offered for appropriate unifocal lesion			22 (100)
BCS offered for appropriate multifocal lesion			11 (50)
BCS offered for appropriate multicentric lesions			3 (13.6)
Upfront surgery versus neoadjuvant therapy			
BCS is safe post-neoadjuvant systemic therapy			22 (100)
Axillary surgery			
Will omit axillary lymph node dissection in BCS if the ACOSOG Z0011 trial protocol criteria are fulfilled			16 (72.7)
Will omit axillary lymph node dissection for micrometastases			21 (95.5)

Table 1. Singaporean breast surgeons' practice patterns and perceptions. (Cont'd)

(C) Intraoperative technique, no (%)				
Methods of intraoperative margin assessment (n=22)	Always	Frequently	Sometimes	Never
Radiological: Ultrasound assessment	9 (40.9)	6 (27.3)	5 (22.7)	2 (9.1)
Radiological: Specimen X-ray	5 (22.7)	3 (13.6)	10 (45.5)	4 (18.2)
Pathological: Frozen section of radial margins	4 (18.2)	2 (9.1)	3 (13.6)	13 (59.1)
Pathological: Frozen section of skin margins	0	3 (13.6)	6 (27.3)	13 (59.1)
Technique for performing pathological assessment of radial margins (n=9)				
Obtaining separate breast tissue samples from the specimen		4 (44.5)		
Obtaining separate breast tissue samples from the cavity		2 (22.2)		
Performing shaved margin sampling		3 (33.3)		
Performing total cavity circumference excision		0		
Have never offered intraoperative conversion to mastectomy based on frozen section results (n=22)				17 (77.3)
(D) Margin status and thresholds in determining the need for reoperation (n=22), no. (%)				
Margin status by type of breast cancer	Ink on tumour	<1 mm	<2 mm	<5 mm
Invasive carcinoma	15 (68.2)	4 (18.2)	3 (13.6)	0
Invasive carcinoma with DCIS	8 (36.4)	3 (13.6)	11 (50)	0
Invasive carcinoma with EIC	6 (27.3)	1 (4.5)	13 (59.1)	2 (9.1)
DCIS with microinvasion (≤ 1 mm)	3 (13.6)	3 (13.6)	16 (72.8)	0
Pure DCIS	1 (4.5)	3 (13.6)	18 (81.8)	0
(E) Patient counselling (n=22), no. (%)				
Communicates that BCT has a higher locoregional recurrence rate but equivalent survival outcomes			4 (18.2)	
Communicates that BCT is oncologically equivalent to mastectomy			16 (72.8)	
Communicates that BCT may be oncologically superior to mastectomy			0	

ACOSOG: American College of Surgeons Oncology Group; BCS: breast-conserving surgery; BCT: breast-conserving therapy; DCIS: ductal carcinoma in situ; EIC: extensive intraductal component

especially concerning margin assessment (Table 1C). The most popular choice is a combination of clinical and radiological methods, and less often histology.⁶ Various other techniques have not been universally adopted due to differing availability of resources, time constraints, accuracy and concerns about cost-effectiveness.

There remains different opinions in defining margin involvement and threshold for recommending reoperation (Table 1D), which have been observed internationally and in our Singapore review.^{2,3} National Comprehensive Cancer Network Guidelines summarises best practice recommendations with clarity, suggesting "no ink on tumour" for invasive cancer, invasive

cancer with DCIS and invasive cancer with EIC; and 2 mm margin for pure DCIS and DCIS with microinvasion.⁴ The natural history, treatment and outcomes are largely similar within each of these 2 groups of disease entities.⁴

Beyond general consensus recommendations, granular details of surgical technique are infrequently discussed on wider platforms, making it impossible for consensus on the best technical approach to BCS. Arguably, achieving the international standard of acceptable rates of margin positivity reported to be between 10–20%⁷ and good overall survival outcomes would meet the standard of care.

Perception influences patient counselling. Notably, while randomised controlled trials with patients recruited from the 1970s to the 1990s have previously established that BCT has comparable survival outcomes to mastectomy,⁸ more recent observational and population-based registry studies have reported improved outcomes in terms of both locoregional recurrence and survival.⁹ More study is required to analyse if Singapore surgeons ought to update their counselling practice in tandem with recent evidence (Table 1E).

Surgeons related that patients “sometimes” to “frequently” (77.3%) maintained preconceived notions that mastectomy is “more effective”, “more thorough” or “safer”, despite having gone through a risk-benefit discussion. There were 63.6% of surgeons who had patients who “sometimes” requested contralateral prophylactic (non-oncological) mastectomy, although only an estimated 18.2% patients eventually received it. Our authors previously determined that the rate of BCS among SingHealth (a group of healthcare institutions in Singapore) female early breast cancer patients was 56%, a proportion that is considered low-normal by Western standards, but higher than previous Singapore studies had suggested.¹⁰ This qualitative data reveals that patients in Singapore hold preconceived notions about the effectiveness of mastectomy that are challenging to influence even after a thorough risk-benefit discussion. Despite this, rates of non-indicated bilateral mastectomy in Singapore remain low compared with those among Western populations.

Breast cancer is a physically and emotionally stressful experience. The myriad of treatment options that a patient can choose from is unique to breast surgery, compared with treatment of other anatomical regions where there is often a more “take-it” or “leave-it” approach. Patient autonomy is important when it comes to treatment decisions and appropriate emphasis is rightfully accorded to the individual's preferences. Many surgeons would have had their patients ask them: “what would you choose?”. Our survey found that 50% of surgeons would choose BCT, 27.3% mastectomy and 18.2% did not know or declined to disclose. Among them, 54.5% of respondents were female, 22.7% male and 18.2% preferred not to disclose. When we looked at the opinions of only female surgeons, 50% preferred BCT, 41.6% mastectomy and 8.3% preferred not to disclose. This simple question forces breast specialists, as professionals, to also consider their personal convictions. It

appears that even breast surgeons with their specialised knowledge, hold contrasting opinions. It is inevitable that individual beliefs and biases can influence the way professionals counsel their patients. These convictions may evolve over time as personal experiences grow, techniques are refined and new data emerge.

Given that an individual's practice is a cumulation of one's respective training, mentorship, institutional influence and interpretation of best evidence, variations are to be expected. Surgical principles and techniques across centres and surgeons in Singapore still remain reasonably similar. This is likely because the community is small and hospitals are in close geographical proximity, which allow trainees to be exposed to a rapid yet wide dissemination of evidence-based guidelines, multidisciplinary tumour board meetings and strong opinion leaders in the field. Overall results of this survey have been discussed and presented to the participants, in the interest of education and community development.

The breast surgeon's responsibility to provide appropriate surgical options while respecting the patient's wishes remains a cornerstone of breast cancer management. The profession can only do that if we keep abreast of evidence, continually update our skills and participate in ongoing dialogue to offer our patients the best medical practice tailored to their needs.

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