A survey of Canadian breast health professionals' recommendations for high-risk benign breast disease

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SUMMARY

The management of high-risk benign breast disease (BBD) is changing because of improvements in radiological and pathological analysis. We sought to determine the current practice recommendations of breast health professionals in managing patients with high-risk BBD. We surveyed members of the Canadian Society of Surgical Oncology, Canadian Association of General Surgeons and Canadian Association of Radiologists. The survey contained demographic and case-based questions concerning management of high-risk benign breast lesions. Participants were asked for their recommendations and opinions regarding future risk of breast cancer as well as the role of chemoprevention. There was no consistency among the 41 respondents in the treatment recommendations for any of the high-risk benign conditions, and the lifetime risk associated with classic lobular carcinoma in situ was vastly underestimated. Education and evidenced-based guidelines are urgently needed to ensure more uniform practice nationally.

High-risk benign breast disease (BBD) encompasses a heterogeneous group of breast disorders that are associated with an increased risk of breast cancer. The spectrum of high-risk BBD includes atypical ductal hyperplasia (ADH), lobular neoplasia (LN; i.e., atypical lobular hyperplasia [ALH] and classical lobular carcinoma in situ [cLCIS]), papillary lesions, radial scars and flat epithelial atypia (FEA). These lesions are associated with a future risk of breast cancer ranging from 0.3% to 2% per year.[1,2]

Historically, when a high-risk lesion is found on core needle biopsy (CNB), the recommendation has been to perform surgical excision of the biopsy site to rule out the possibility of an associated malignancy (i.e., a sampling error). Although significant upgrade rates upon excision of these lesions have been reported in the literature, most of these data pertained to CNB using smaller-gauge (14-G) needles with basic radiological imaging. However, in recent years, many biopsies have been performed with a large-gauge (10-G) vacuum-assisted needle. For these reasons, breast health professionals could be unclear as to whether excisional biopsies of high-risk benign breast lesions should still be performed. We conducted a survey to determine the current practice recommendations of breast health professionals in managing patients with high-risk benign breast lesions.

Our survey included basic demographic questions as well as 5 detailed case-based scenario questions. The cases were chosen to represent typical patients presenting with a high-risk BBD lesion. After developing the survey questions, we sent them to a multidisciplinary panel of experts to determine content and face validity. A web-based survey link was distributed via email to members of the Canadian Society of Surgical Oncology and the Canadian Association of Radiologists. The survey link was also published in the Canadian Association of General Surgeons e-newsletter.

Survey results

Forty-one respondents answered both the demographic and case-based scenario questions. Nineteen (46%) were surgeons and 22 (54%) were radiologists. The summary recommendations are shown in Table 1. In general, there was no clear consensus recommendation for any of the 5 high-risk BBD scenarios.

Among surgeon respondents, the lifetime risk associated with cLCIS ranged from < 10% to > 25%, whereas most of the radiologists quoted a lifetime risk of 15%–20%. There was no consensus on how patients with cLCIS should be screened; nearly half the respondents recommended an annual mammogram, and half recommended both annual mammography and magnetic resonance imaging. Only 56% of respondents referred patients with cLCIS for chemoprevention discussion. The lifetime risk quoted for ADH was more uniform, with most respondents quoting a lifetime risk of 10%–20%.

When asked what upgrade rate to malignancy warranted surgical excision, 42% of respondents felt that a 5% risk warranted excision and 39% felt that a 10% risk warranted excision.

Discussion

The opportunity for detection and diagnosis of high-risk BBD lesions has increased dramatically in the last 3 decades because of increased screening and more sensitive imaging. However, despite BBD being relatively common within breast health professionals' practices, our survey results showed variation in the management of these lesions. This uncertainty is likely based on heterogeneity within the literature regarding the management of these lesions.

The variability in the literature may be explained, in part, by a lack of careful assessment of radiological–pathological correlation and concordance as well as the inclusion of cases that were upgraded to malignancy but had other imaging or clinical findings warranting excision. Furthermore, the literature consists almost entirely of small, single-institution, retrospective studies, and follow-up for patients on whom excision is not performed is not reported. The few studies with follow-up for lesions not excised are valuable, but selection bias and length of follow-up remain a concern.

Interestingly, we found that radiologists were more likely than surgeons to recommend surgical excision for ADH, radial scars and papillomas without atypia. This finding is in line with those of a study that examined radiologists'

Table 1. Responses to case-based scenarios

Recommendation	Group; no. (%)			*p* value
	Total (*n* = 41)	Surgeons (*n* = 19)	Radiologists (*n* = 22)	
Case 1: cLCIS				0.58
The biopsy is concordant. Recommend follow-up unilateral mammogram in 6 mo	5 (12.2)	2 (10.5)	3 (13.6)	
The biopsy is concordant. Recommend localized lumpectomy of the biopsy site	18 (43.9)	10 (52.6)	8 (36.4)	
The biopsy is concordant. Recommend referral to a high-risk breast clinic to discuss risk-reduction strategies	16 (39.0)	6 (31.6)	10 (45.4)	
The biopsy is discordant. Recommend either re-biopsy or surgical excision	1 (2.4)	1 (5.3)	0	
Other	1 (2.4)	0	1 (4.6)	
Case 2: ADH				0.49
Follow-up unilateral mammogram in 6 mo	9 (22.0)	6 (31.6)	3 (13.6)	
Localized lumpectomy of the biopsy site	23 (56.1)	10 (52.6)	13 (59.1)	
Referral to a high-risk breast clinic to discuss risk-reduction strategies	8 (19.5)	3 (15.8)	5 (22.7)	
Other	1 (2.4)	0	1 (4.6)	
Case 3: radial scar				0.53
The biopsy is concordant. Recommend localized lumpectomy of the biopsy site	27 (65.8)	11 (57.9)	16 (72.3)	
The biopsy is concordant. Recommend vacuum-assisted excision of the residual mass	1 (2.4)	1 (5.3)	0	
The biopsy is concordant. Recommended follow-up unilateral mammogram in 6 mo	6 (14.6)	4 (21.0)	2 (9.1)	
The biopsy is discordant. Recommend either re-biopsy or surgical excision	7 (17.1)	3 (15.8)	4 (18.2)	
Case 4: papilloma without atypia				0.34
Follow-up unilateral mammogram and ultrasound in 6 mo	20 (48.8)	12 (63.2)	8 (36.4)	
Localized lumpectomy of the biopsy site	11 (26.8)	4 (21.0)	7 (31.8)	
Routine annual screening mammogram in 12 mo	8 (19.5)	3 (15.8)	5 (22.7)	
Other	2 (4.9)	0	2 (9.1)	
Case 5: FEA				0.08
The biopsy is concordant. Recommend localized lumpectomy of the biopsy site	19 (46.3)	12 (63.2)	7 (31.8)	
The biopsy is concordant. Recommended follow-up unilateral mammogram in 6 mo	20 (48.8)	7 (36.8)	13 (59.1)	
The biopsy is discordant. Recommend either re-biopsy or surgical excision	2 (4.9)	0	2 (9.1)	

ADH = atypical ductal hyperplasia; cLCIS = classical lobular carcinoma in situ; FEA = flat epithelial atypia.

preferences for management of high-risk BBD. Georgian-Smith and Lawton[3] found that 71% of radiologists recommended excision of a papilloma without atypia and 73% recommended surgery for a radial scar. When Nizri and colleagues[4] surveyed American breast surgeons, however, they found that only 49% recommended excision of a papilloma and 57% recommended excision of a radial scar.

Unfortunately, guidelines for the management of high-risk BBD are scant; there are no published guidelines from large national or international societies. Institution-based practice parameters are available; however, they vary widely among institutions.

With regards to the risk perceptions associated with LCIS, King and colleagues[1] examined 1060 patients with cLCIS who entered a surveillance program of clinical breast examinations, annual mammogram and practitioner-directed MRI. The patients were followed for a median of 81 months, and the annual incidence of breast cancer was 2%/year.[1] This translated into a 15-year risk of 26% — much higher than the risk quoted by the majority of our survey respondents, indicating a knowledge gap. With respect to the risk of future breast cancer associated with a diagnosis of ADH, the largest cohort studies to date indicate a risk of up to 30% at 25 years — again, much higher than reported by our survey respondents.[5]

Conclusion

There is heterogeneity in practice recommendations for patients with high-risk BBD in Canada, likely because of knowledge gaps and a lack of national and international evidenced-based guidelines. In the future, the evidence base should be strengthened by publication of data from larger, single-institution cohorts evaluated in a multidisciplinary fashion and prospectively followed. Ideally, multi-institutional observational registries will be developed for high-risk BBD lesions diagnosed on percutaneous biopsy.

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