B3 lesions: Vacuum assisted excision (VAB) is sufficient for most cases except ADH. Analysis of the SWISS MIBB database

Christoph Rageth, Genève and the MIBB core team (Emmanuel David-Montefiore, Genève, Miguel Dumont, St. Gallen, Martina Maranta, Chur, Gert Kampmann, Lugano, Claudia Kurtz, Luzern, Luzi Rageth, Zürich, Daniela Schwegler-Guggemos, Aarau, Martin Sonnenschein, Bern, Christoph Tausch, Zürich, Zsuzsanna Varga, Zürich, Rosanna Zanetti Dällenbach, Basel)

Introduction

B3 lesions are defined by the NHS Breast Cancer Screening program as lesions with uncertain malignant potential (1). The B3 lesions are:

- Atypical ductal hyperplasia (ADH)
- Flat epithelia atypia (FEA)
- Lobular neoplasia classical type (LN)
- Papillary lesions (PL)
- Phyllodes tumors (PT) and
- Radial Scars (RS)

On September 5th 2008, after introduction of vacuum assisted biopsies (VAB) the Swiss Society of Senology founded a working group for minimally invasive breast biopsies (MIBB) and established guidelines (2). In February 2016 the International Breast Ultrasound School (IBUS) held the First International Consensus Conference on lesions of uncertain malignant potential in the breast (B3) and published the results (3). The consensus **recommendation for FEA, LN, PL, and RS** diagnosed on core needle biopsy or vacuum-assisted biopsy (VAB) was to therapeutically excise the lesion seen on imaging by VAB and no longer by open surgery, with follow-up surveillance imaging for 5 years. The consensus **recommendation for ADH and PT** was, with some exceptions, therapeutic first-line open surgical excision.

The aim of this analysis was to find out, to what extent daily practice in Switzerland has changed after this consensus conference

Methods

The Swiss MIBB database was analyzed regarding recommendation after MIBB and regarding outcome of open surgery, when it was indicated. For this analysis only pure B3 lesions were taken into account and for calculating the significance the Chi-square test was applied.

Results

Up to 2018 a little more than 30'000 cases of VAB were recorded. Most of them were performed stereotactically (68%), 23% were performed under US guidance and 9% under MRI guidance. The recommendations changed in the two compared time periods as follows:

pure B3 histology	n MIBB's		surveillance recommended		recommendation of surveillance – difference between 2 time periods in %
	2008-2015	2016-2017	2008-2015	2016-2017	
ADH	779	160	181 (23.2%)	41 (25.6%)	2.4 (p=0.52)
FEA	786	207	483 (61.5%)	149 (72%)	10.5*(p=0.005)
LN	561	131	286 (51%)	85 (64.9%)	13.9*(p=0.004)
PL	961	288	670 (69.7%)	219 (76%)	6.3*(p=0.04)
PT	22	13	14 (64%)	9 (69%)	5.6 (p=0.74)
RS	316	99	212 (67.1%)	76 (76.8%)	9.7 (p=0.07)

*significant

Results of open surgery when it was performed, showed upgrades to DCIS or invasive cancer in 1.3 to 20.1%:
ADH: 557 of 943 cases operated: 30 (5.1%) invasive cancers and 119 (20.1%) DCIS
FEA: 221 of 994 cases operated: 18 (7.2%) invasive cancers and 22 (8.8%) DCIS
LN: 246 of 701 cases operated: 33 (12.3%) invasive cancers and 35 (13.1%) DCIS
PL: 238 of 1'251 cases operated: 5 (1.8%) invasive cancers and 16 (5.9%) DCIS
RS: 66 of 415 cases operated: 1 (1.3%) invasive cancer and 5 (6.7%) DCIS

Conclusion

Daily practice in Switzerland has significantly changed since the first consensus meeting in 2016 for FEA, LN, PL and regarding RS we noticed a trend towards less frequent recommendation of open surgery in favor of surveillance after excision of a B3 lesion with VAB. Since upgrades are possible also after FEA, LN, PL and RS, careful interdisciplinary evaluation of each case with special regard to discrepancy between histology and the radiological interpretation.

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Literature

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