Upgrade rate and outcomes of lobular neoplasia of the breast

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Introduction

Lobular neoplasia is a pathological diagnosis which refers to a uniform intralobular epithelial proliferation of dis-cohesive cells.

It describes findings consistent with either atypical lobular hyperplasia (ALH) or non-pleomorphic lobular carcinoma in situ (LCIS) where there is not a sufficiently large sample of tissue to reach a conclusive differentiation.

Patients with a diagnosis of LN on CNB are routinely offered excision due to the risk of upgrade to invasive carcinoma.

Although these lesions are thought to be associated with increased risk of the future development of breast cancer, the reported risk is variable, and so the optimal follow-up of these women is unknown.

Our aim was to analyse upgrade rates of these lesions and the to report the risk of subsequent development of breast cancer.

Methods

We conducted a retrospective review of a prospectively maintained database containing all patients with a lesion of uncertain malignant potential (B3 lesion) on identified on CNB in an Irish screening centre from 2005 to 2012.

Following this we selected out all patients with a finding of lobular neoplasia (atypical lobular neoplasia and non–pleomorphic lobular carcinoma in situ).

We excluded patients who had other high risk lesions such as atypical intraductal epithelial proliferation (AIDEP) and papilloma with atypia co-existing on CNB.

All patients not upgraded on diagnostic excision were offered surveillance in the form of annual mammography for 5 year post-operatively.

We recorded patient demographics and clinicopathological characteristics, along with rates of upgrade to invasive and in situ carcinoma and rate of subsequent development of breast cancer during follow-up.

Results

425 patients were diagnosed with lesions of uncertain malignant potential during the study period. Of these, 68 patients were diagnosed with LN on CNB (64 patient with ALH and 4 non-pleomorphic LCIS), in two cases this finding of LN co-existed with a finding of AIDEP and these patients were excluded leaving 66 patients suitable for inclusion.

All 66 patients proceeded to diagnostic excision and the overall rate of upgrade was 15.15% (10/66).

4 (6.1%) were upgraded to invasive carcinoma and 6 (9.1%) to ductal carcinoma in situ (DCIS).

Of the 56 patients not upgraded on diagnostic excision 42 (75%) had findings of atypia on diagnostic excision while the other 25% yielded benign tissue only.

In those patients who had findings of atypia on diagnostic excision 31 (73.8%) had findings consistent with ALH, 7 (16.7%) had ALH and LCIS, 2 (4.8%) had LCIS alone and 2 (4.8%) had AIDEP.

7.1% (4/56) of non-upgraded patients went on to develop malignancy during follow-up.

1/4 (25%) patients with LCIS on original CNB developed subsequent malignancy. 3/52 (5.7%) of the patients with ALH on original CNB, who were not upgraded, developed subsequent malignancy.

The mean time to diagnosis of these subsequent cancers was 59.6 months (range 10.5-124.4 months).

Conclusions

Our rate of upgrade for lobular neoplasia (15%) is consistent with reported rates in the literature.

This rate of upgrade is sufficiently high to support the current practice of routine excision of these lesions.

Diagnostic excision plays a significant role in risk stratification in these patients.

Some patients had fully benign findings on diagnostic excision, none of these patients had subsequent breast malignancy. This suggests that when disease extent is sufficiently small to be fully excised with core needle biopsy there is no significant increased risk of subsequent malignancy and as such these patients may not require increased surveillance.

Our data suggests that women with a diagnosis of atypia on diagnostic excision are at increased risk of future breast cancer, and that many of these cancers develop outside of the standard 5 years of increased surveillance.

This suggests that these women have an increased lifetime risk of breast cancer, and should be offered increased surveillance.