



Commentary

Commentary on: evidence for avoiding the biopsy of typical fibroadenomas in women aged 25–29 years



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In this edition, Taylor *et al.* present an interesting and important paper describing results of a retrospective audit at three units of biopsy of mass lesions in women aged 25–29 years, and a second audit at one of the units following a change in practice to non-biopsy of lesions with benign features in women aged 25–29 years.¹

Currently, the majority of breast units in the UK operate a policy of non-biopsy of lesions with ultrasound features typical of fibroadenomas in women <25 years old. Updating guidance to use an age threshold of <30 years would have a significant impact both on workload in symptomatic clinics and on the patients safely avoiding biopsy.

Between the three centres, a total of 595 lesions with ultrasound features typical of fibroadenomas were biopsied with 571 generating a B2 result. The other 24 in this group were designated as B3 but were all benign on surgical biopsy. During the audit periods, a total of 40 patients (in the 25–29 year old age group) were diagnosed with breast malignancies, but none of these had ultrasound (US) features typical of fibroadenomas, although four had US features classified as “probable” fibroadenomas. The authors have

used “probable” if the lesions exhibited one or more atypical features. Centre A introduced a non-biopsy protocol in 2009 and now has 10 years of data to support their practice of non-biopsy of patients <30 years presenting with clinically benign lumps, no risk factors for malignancy and US features typical of a fibroadenoma. To date, to their knowledge, no patient in this group has re-presented with a cancer.¹

Centres A and B suggest protocols for safe avoidance of biopsy in patients <30 years. These differ slightly but are both based on Stavros criteria² and the protocol suggested by Maxwell and Pearson in 2010.³ As far back as 1995, Stavros quantified the risk of a sonographically benign lesion (in patients of all ages) being malignant as <2%, demonstrating a negative predictive value of 99.5% and a sensitivity of 98% for 426 lesions.²

In a large study of women aged <30 years, no malignancies were seen in 666 patients where the ultrasonography was reported as BI-RADS category 1, 2, or 3.^{4,5} Advances in ultrasound equipment including the development of shear-wave elastography (SWE) have led to further improvements in accuracy. Taylor *et al.* make little mention of elastography apart from acknowledging that it may further increase certainty of benignity.¹ SWE allows quantitative and reproducible measurement of lesion stiffness in kilopascals and can be performed quickly during routine breast ultrasound examinations.⁶ Several large studies have shown that it improves benign/malignant differentiation of solid breast masses when combined with grey-scale US.^{7,8}

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Notably, the combination of benign SWE and grey-scale ultrasound findings has been shown to be highly specific, and malignancy is extremely unlikely, with a negative predictive value for the combination of 100%. Qualitative assessments have also been found to be useful (shape at SWE, pattern of stiffness and heterogeneity of stiffness).^{9,10}

In a recent UK study, Giannotti *et al.* reviewed 694 lesions in 682 women who had all undergone US, SWE, and needle core biopsy.¹¹ No cancer had benign characteristics on both imaging methods.

Of the 131 lesions in patients <40 years, 107 (81.7%) were benign and 24 (18.3%) were malignant. All 24 cancers were stiff on SWE, and none were classified as BI-RADS 3 on grey-scale US. Of the 107 benign lesions, 43 (40.2%) lesions were classified correctly as benign by both SWE and BI-RADS. As a consequence, this unit has implemented a non-biopsy policy for all lesions with typical appearances of fibroadenomas for women <40 years, provided that they are soft on SWE. All such cases undergo consensus imaging review on a weekly basis, and results of SWE at other UK centres should be reviewed to assess whether the high levels of accuracy achieved by Giannotti *et al.* are reproducible.

It would seem entirely appropriate to recommend raising the age threshold to 30 for non-biopsy of typical fibroadenomas when clinical and sonographic features meet strict criteria, described here. The protocol suggested in Appendix B could easily be adopted into clinical practice in most UK breast units¹; however, as with all new practices, careful quality assurance and audit of cases will be essential.

Conflict of interest

The authors declare no conflict of interest.

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