

Summary and Conclusion

The female breast is in the unique position of being a gland which is non- functional except during lactation, it is nevertheless subject to hormonal influences, particularly throughout reproductive life and this probably accounts for most of its pathological changes which rarely affect the male. By far the most important disease is carcinoma which usually presents as a palpable lump.

Other lesions are mostly of importance because some of them also produce a lump or lumpiness of the breast, or other symptoms which raise the suspicion of carcinoma and must therefore be investigated.

Breast US has advanced enormously in the last five years both in quantity and quality. At present, US is accepted as complementary to clinical examination and mammography, with a primary role in distinguishing cystic from solid masses. Its role in differentiating between benign and malignant solid masses has been controversial. Morphologic US criteria for differential diagnosis have however been presented recently.

The presence of microcalcifications, acoustic shadowing or non-well defined tumour margins is related to malignancy. US can be a useful tool when mammography has limitations as in the identification and evaluation of palpable or non palpable masses not visible in mammographically dense breast, it is also helpful in the case of extremely peripherally located masses, as well as in evaluation of axillary node status and in examining breasts recently operated or acutely inflamed and during pregnancy.

US is used as a primary imaging for under 35's. US is used as second imaging to further characterize all mammographic lesions and in patients with clinical abnormalities not seen on mammography.

US also plays an important role in the guidance of diagnostic interventional procedures.

Breast US is not routinely used for screening, some studies have suggested that US may be a helpful addition to mammography when screening women with dense breast tissue (which is hard to evaluate with a mammogram). But the use of US instead of mammograms is not recommended.

It is also possible to distinguish between benign and malignant breast lesions with the use of colour and power Doppler sonography and many parameters can be used for this purpose, but the only parameter that differs sufficiently widely is the peak systolic velocity of the spectral trace on colour Doppler sonography, in addition, the morphological criteria of vascularity of the mass (color flow mapping), has a more important role in differentiation between benign and malignant masses than the spectral trace of vessels. Additional informations can be obtained with the use of contrast media.

Conclusion:

US and color Doppler studies have valuable roles in assessment of benignity and malignancy of breast masses, and these roles will continue to expand with continuous developments in the field.