

## E10. Benign breast disease

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Benign breast disease is a term used to cover a variety of physio pathological conditions which are generally seen in the reproductive years. In the past, these were described by their morphological appearance without regard to the physiological or functional importance. With a greater understanding of the physiology of the menstrual cycle and of the menopause, it emerged that a number of these so-called pathological conditions, were in fact manifestations of normal physiology reflecting the normal changes of development and involution. When it was realised that a simple pathological entity such as hyperplasia, was seen in the majority of women on random biopsy in the reproductive years, it became difficult to describe this as a disease process. An unifying concept was described by Hughes and colleagues [1], using the acronym ANDI, which stands for aberrations of normal development and involution. This concept allowed conditions such as breast pain to be defined as changes of physiology rather than disease states. Equally the pathological counterpart of fibroadenosis or fibrocystic disease in the American parlance, could be included in the classification as variations of physiology and not as true disease. Using this concept, the majority of women with painful lumpy breasts were not defined as having a disease, but as experiencing part of the normal physiological changes that occur in response to the waxing and waning of the menstrual cycle and the superimposed changes of development in pregnancy and involution in old age. These concepts also fit the well-known observations that the majority of women with so-called benign breast disease have a low risk for the development of breast cancer.

The ANDI concept even includes such well-defined pathology as a fibroadenoma, since it is known that this entity develops in the young woman under the influence of rising hormone levels, and will even show the changes of lactation in pregnancy, and will regress in the menopause. In the classification such a hormone responsive tissue is described as a physiological variant rather

than a disease state, which in general is unresponsive to normal hormonal signals. Equally in this concept, cystic change is accepted as an involutional process which is commonly seen in the peri-menopausal breast.

Acceptance of these concepts allows the clinician to understand the symptoms of benign breast change or ANDI, without needing to raise patient anxiety by linkage to risk of breast cancer, which is known to be small in the vast majority of these conditions, with the exception of atypical ductal hyperplasia. This avoids labelling women as having a disease with all the connotations that carries of needing treatment or biopsy and reduces the potential problem of negative views of future health risk. These principles have been put into practice in recent times in allowing patients to keep their fibroadenomas once these have been diagnosed by core biopsy. Initially, it was thought that patients would be resistant to this idea, but in practice it has proved very acceptable to patients, such that open surgical biopsy has virtually disappeared in UK practice, apart from the necessity to perform localisation biopsy occasionally for microcalcifications which are not visible on ultrasound.

Now that the concept of benign disease is emerging from the strictly morphological approach of pathologists in the last century, the new challenge will be to relate the increasing knowledge of molecular function to the structural changes in these conditions. Ultimately, it may be possible to define the ANDI portfolio in terms of genetic changes in breast cells, with the prospect of increasingly subtle hormonal manipulation in order to reduce the symptomatic impact of this heterogeneous group of conditions.

### References

- [1] Hughes LE, Mansel RE, and Webster DJT. ANDI – A new perspective on breast disorders. *Lancet* 1987; 2: 1316–1319.