Chairperson's Introduction

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Breast cancer comprises a diverse group of diseases in terms of presentation, morphology, molecular profile and response to therapy. In recent years, molecular techniques, in particular gene expression analysis, have identified classes of breast cancer which are biologically and clinically distinct. One of the subgroups which has attracted significant attention in recent years is basal-like breast cancer (BLBC), which is characterised by expression of genes usually found in basal/myoepithelial cells of the normal breast. Using unsupervised hierarchical clustering analysis, BLBCs are placed within a cluster of oestrogen receptor (ER) negative, progesterone receptor (PR) negative and HER2 negative tumours and are associated with poor prognosis. Although gene-expression profiling is considered the 'gold standard' method for identification of BLBC, this approach is not currently feasible for large-scale clinical application. Therefore, a more practical clinical approach has emerged based on use of the widespread availability of information on hormone and HER2 receptors. The concept of triple-negative (TN) breast cancer (ER, PR and HER2 negative) has thus emerged which, from the oncologist's standpoint, is undeniably one of the most relevant subgroups of breast cancer, given the lack of targeted therapies for this group and their aggressive clinical behaviour. ER, PR and HER2 test results are used in routine practice and, therefore, TN tumours can easily be identified and can often be extracted from existing clinical records. However, it should be emphasised that TN cancers are a more heterogeneous group of breast cancers than BLBCs and despite claims that the TN phenotype could be used as a reliable surrogate for BLBCs, several studies have demonstrated that not all BLBCs are TN. Despite these issues, TN has become a significant clinical concept with treatment protocols and clinical trials emerging internationally.

In this chapter, three eminent authorities address the key issues involving TN breast cancer. Giuseppe Viale examines the pathological definition of TN breast cancer, Laura van 't Veer the genetic basis of the concept and Carlos Caldas its prognostic implications. This chapter will provide readers with a detailed and comprehensive overview of this highly topical field of breast cancer biology and clinical practice.

Conflict of interest statement

None declared.