Discovery of new molecular subtypes in oesophageal adenocarcinoma.

Abstract:
A large number of patients suffering from oesophageal adenocarcinomas do not respond to conventional chemotherapy; therefore, it is necessary to identify new predictive biomarkers and patient signatures to improve patient outcomes and therapy selections. We analysed 87 formalin-fixed and paraffin-embedded (FFPE) oesophageal adenocarcinoma tissue samples with a reverse phase protein array (RPPA) to examine the expression of 17 cancer-related signalling molecules. Protein expression levels were analysed by unsupervised hierarchical clustering and correlated with clinicopathological parameters and overall patient survival. Proteomic analyses revealed a new, very promising molecular subtype of oesophageal adenocarcinoma patients characterised by low levels of the HSP27 family proteins and high expression of those of the HER family with positive lymph nodes, distant metastases and short overall survival. After confirmation in other independent studies, our results could be the foundation for the development of a Her2-targeted treatment option for this new patient subgroup of oesophageal adenocarcinoma.