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IN BRIEF

HAEMATOLOGICAL CANCER

A novel risk-classification tool for multiple myeloma

The International Scoring System (ISS), based on clinical markers, is commonly used in the management of patients with multiple myeloma. Other scoring systems based on biological markers can be used to stratify patients with this malignancy. To generate a more-reliable prediction tool, ISS was combined with gene-expression classifiers resulting in ISS-EMC92, which incorporates 20 risk-prediction markers. Datasets from six different randomized trials (comprising 4,750 patients) were evaluated using ISS-EMC92. A four-risk-group classification was generated. The median survival of patients was distinct between groups, ranging from 24 months for the highest-risk group to 96 months for the lowest-risk group. ISS-EMC92 demonstrated superior prognostic value than previous scoring systems.

Original article Kuiper, R. *et al.* Prediction of high- and low-risk multiple myeloma based on gene expression and the International Staging System. *Blood* doi:10.1182/blood-2015-05-644039

PANCREATIC CANCER

Including the stromal compartment in PDAC classification

The management of pancreatic adenocarcinoma (PDAC) is influenced by the presence of a stromal compartment in tumours—and this component is a hallmark of PDAC. Microarray data from cell lines and also from normal and malignant tissue were digitally separated using non-negative matrix factorization (NMF). This method was used to virtually dissect PDAC by assigning gene-expression signatures to compartment-specific groups. Importantly, misleading information was removed because the normal tissue-expression signature was distinguished from tumour-specific gene expression. Compartment-specific gene-expression signatures were analysed independently; two tumour subtypes ('classical' and 'basal-like') and two stromal subtypes ('normal' and 'activated') were established. The combination of both tumour subtypes and the two stromal subtypes resulted in four PDAC subtypes associated with significant differences in survival rates.

Original article Moffitt, R. A. *et al.* Virtual microdissection identifies distinct tumor- and stroma-specific subtypes of pancreatic ductal adenocarcinoma. *Nat. Genet.* doi:10.1038/ng.3398

CNS CANCER

MRI—a new approach to identify glioblastoma subtypes

Intratumour heterogeneity poses a challenge for the stratification of patients with glioblastoma (GBM). MRI, which is commonly used for diagnosis and assessment of response to treatment, was explored as a non-invasive tool to subclassify risk groups. Three clusters were identified: pre-multifocal, spherical and rim-enhancing. Each cluster was associated with a distinct molecular signature. Significant differences were detected in survival probability for each cluster; having pre-multifocal GBM was associated with the poorest survival rate, whereas patients with rim-enhancing GBM had the best survival rate. These results indicate that MRI can be used as a non-invasive tool to stratify patients with GBM to different treatment options.

Original article Itakura, H. *et al.* Magnetic resonance image features identify glioblastoma phenotypic subtypes with distinct molecular pathway activities. *Sci. Transl. Med.* **7**, 303ra138 (2015)