

SYMPOSIUM 1 - CANCER

FOCUS: SOLID CANCERS

Solid Tumour Diagnostics - The Evolving Landscape

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Cancers of the same histopathological category differ in their molecular anomalies and thus even the most frequent cancer types are a collection of “rare” diseases from a molecular standpoint. Each cancer has multiple gene alterations that affect the function of several signalling pathways, which may be peculiar to a cancer type or similar among different tumour types.

This molecular heterogeneity is an ongoing process that is responsible for the clonal evolution of cancers in both primary sites and metastasis, resulting in resistance to treatment. Thus, an accurate assessment of tumour heterogeneity is essential for the development of more effective personalized therapies.

Advancements in technologies such as next generation sequencing would allow for the identification and quantification of molecular heterogeneity, sequencing multiple genes simultaneously from routine materials, such as small biopsies and cytological samples.

Further down the line, it may be possible for the routine use of liquid biopsies to evaluate tumour load and monitor response to therapy, as well as whole genome/transcriptome sequencing to assess the molecular landscape of individual cancers.

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