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IN BRIEF

SARCOMA

Genetic determinants of sarcoma risk revealed

Sarcomas are rare, heterogeneous cancers with a mean age at onset that is earlier than that of many other types of cancer; however, the genetic basis of sarcoma remains largely unknown. Data from a recently published genetic-association study involving 1,162 patients with sarcoma from four different clinical study cohorts reveal that 55% of these patients have underlying monogenic or polygenic genetic variations that are either known to be or are likely to be pathogenic relative to their wild-type variants. Mutations in the known oncogenes *TP53*, *ATM*, *ATR* and *BRCA2* were observed in patients with sarcoma, in addition to a surprisingly high prevalence of mutations in the gene that encodes ERCC2, a transcription factor required for nucleotide excision repair. A correlation was observed between earlier age at diagnosis and the presence of multiple pathogenic variants. These data demonstrate that, to some extent, sarcoma has a genetic aetiology.

ORIGINAL ARTICLE Ballinger, M. L. *et al.* Monogenic and polygenic determinants of sarcoma risk: an international genetic study. *Lancet Oncol.* http://dx.doi.org/10.1016/S1470-2045(16)30147-4 (2016)

HAEMATOLOGICAL CANCER

Carfilzomib is superior to bortezomib in rMM

Patients with relapsed multiple myeloma (rMM) often receive multiple lines of therapy, which can make identification of the true efficacy of new agents in clinical trials challenging. Now, a subgroup analysis of data from the ENDEAVOR study reveal that the protesome inhibitor carfilzomib has superior efficacy to that of bortezomib (both in the presence of dexamethasone), regardless of the number of lines of prior treatment, or prior exposure to lenalidomide. Treatment with carfilzomib also resulted in a higher response rate than treatment with bortezomib, again regardless of the type or extent of pretreatment, with similar toxicity profiles observed. These data indicate that carfilzomib is superior to bortezomib in patients with rMM. The findings of these subgroup analyses further support the results of the ENDEAVOR study.

ORIGINAL ARTICLE Moreau, P. *et al.* Impact of prior treatment on patients with relapsed multiple myeloma treated with carfilzomib and dexamethasone vs bortezomib and dexamethasone in the phase 3 ENDEAVOR study. *Leukemia* http://dx.doi.org/10.1038/leu.2016.186 (2016)

GENETICS

Surveillance effective for *TP53*-mutation carriers

Individuals with Li–Fraumeni syndrome, who harbour pathogenic germline *TP53* mutations, have a substantially increased risk of developing cancer than those with wild-type *TP53*. Data from a newly published study confirm that regular surveillance of these individuals for asymptomatic cancers is warranted. In a prospective study, with a cohort of 89 individuals with Li– Fraumeni syndrome, 32% of patients undergoing regular surveillance had asymptomatic tumours detected during the surveillance period, compared with 88% of patients not on surveillance requiring treatment for symptomatic tumours. The need for regular surveillance of individuals with Li– Fraumeni syndrome was further confirmed by the superior 5-year overall survival outcomes of individuals in the surveillance group (88.8%) compared with those who chose not to undergo surveillance (59.6%).

ORIGINAL ARTICLE Villani, A. *et al.* Biochemical and imaging surveillance in germline *TP53* mutation carriers with Li-Fraumeni syndrome: 11 year follow-up of a prospective observational study. *Lancet Oncol.* http://dx.doi.org/10.1016/S1470-2045(16)30249-2 (2016)