

Whole genome sequencing in daily practice – how far are we?

Advances in DNA sequencing technology have strongly reduced costs of Whole Genome Sequencing (WGS) and have made it possible to perform WGS on tumor biopsies within 2 to 3 weeks. Despite its great potential, the value of WGS to improve cancer treatment (planning) and has so far only been addressed by individual case studies or by smaller cohorts. We have retrospectively shown in >2,400 metastatic cancer patients, analyzed by WGS in context of the national CPCT-02 study, that in 31% an approved biomarker for a targeted treatment could be identified. Of these biomarkers, 58% were not targets for standard-of-care (SoC) treatment but suggested off-label use or clinical study eligibility. The potential of WGS in a routine diagnostic setting is currently explored prospectively in the WIDE study, a collaboration between HMF and NKI/AvL.

This presentation will address the feasibility, clinical validity and added value of WGS, together with the biggest hurdles that have already been taken, as well as the tasks that lie ahead for implementation of WGS in routine practice.