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Titel des Beitrags: Long-term follow-up of bladder cancer patients with disseminated tumour cells in bone marrow.

Abstract: The clinical relevance of polymerase chain reaction (PCR)-based techniques for detection of disseminated tumour cells (DTCs) in the bone marrow of bladder cancer (BCa) patients is still under debate, as data on long-term follow-up analysis have not yet been published. The aim of the present prospective study was to assess the prognostic significance of DTCs detected by cytokeratin-20 (CK20) reverse-transcriptase PCR in bone marrow from BCa patients undergoing radical cystectomy (RC). Bone marrow samples from 51 BCa patients with high-risk non-muscle-invasive or muscle-invasive urothelial carcinoma were drawn from the anterior iliac crest prior to RC. CK20-positive cells in bone marrow were detected by qualitative RT-PCR. BCa patients with CK20 status were analysed with respect to the end points tumour progression and cancer death. A multivariate Cox regression analysis was performed to determine independent prognostic factors for progression-free survival (PFS), tumour-specific survival (TSS), and overall survival (OS). CK20-positive cells were detected in 16 of 51 (31.4%) BCa patients of all stages. BCa patients with CK20-negative status displayed a 7-yr PFS rate of 64% versus 35.2% for CK20-positive patients (p=0.007). TSS was significantly shorter in the CK20-positive group, with a 7-yr survival rate of 46.9% compared to
CK20-negative patients with 70.2% (p=0.012). The 7-yr OS rate of 37.5% for CK20-positive patients was significantly<65.7% in the CK20-negative group (p=0.006). A subgroup analysis of lymph node-negative patients (pN0) discriminated by CK20 status revealed significant differences in PFS, TSS, and OS. In a multivariate analysis, CK20-status provides independent prognostic information with respect to all three survival endpoints. BCa patients with positive CK20 status in bone marrow represent a high-risk subgroup reflected by an unfavourable outcome in the long-term analysis.