Anemia of cancer, transfusion rates and frailty status predict survival in women with endometrial cancer

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Introduction/Background Perioperative red blood cell transfusions (RBC) have been associated with increased morbidity and worse oncologic outcomes in various solid neoplasms. In order to elucidate whether RBC themselves, the preoperative anemia of cancer (AOC) or the impaired global health status might explain this impact on patients with endometrial cancer (EC), we performed a retrospective, single-institution cohort study.

Methodology Women older than 60 years with EC were included. The impact of RBC, AOC and frailty status determined by the G8 geriatric screening tool (G8 Score) as well as clinical-pathological cancer characteristics on progression-free survival (PFS) and overall survival (OS) were determined by using the Kaplan Meier method and the Cox regression analyses.

Results In total, 152 EC patients (mean age: 71.0 +/- 7.4 years) with a median follow-up time of 31.0 [8.0 – 68.5] months entered the study. EC patients receiving RBC were faced with a significantly decreased 5-year PFS (79.8% vs. 26.0%; p<0.001) and 5-year OS (82.6% vs. 25.7%; p<0.001). In the univariable Cox regression analysis, FIGO-stage, histological grade of differentiation, postoperative residual tumor burden and RBC, as well as preoperative frailty status for both, 5-year PFS and 5-year OS were associated with decreased survival rates (all p-values <0.05). In the multivariable analyses, besides selected clinical-pathological cancer characteristics (FIGO-stage and histological grade of differentiation), the RBC solely retained significance as a relevant prognostic parameter for PFS (HR: 1.76; 95%-CI [1.01 – 3.07]) and OS (HR: 2.38; 95%-CI [1.50 – 3.78]).

Conclusion These results underline the impact of RBC and selected clinical-pathological cancer characteristics on the prognosis of patients with EC. To which extent a multidimensional diagnostic and treatment algorithm covering standardized transfusion management, the clarification of AOC, as well as the determination of global health status by validated frailty assessment tools support the maximal surgical efforts in the elderly patients with EC needs further evaluation.