Abstract: Summary In this review, the influence of epithelial cells detected in bone marrow of patients with carcinoma of the upper GI tract on prognosis is analyzed. Methodological variables affecting bone marrow sampling, immunocytochemical approaches, and phenotyping of epithelial cells were evaluated as well as the correlation to clinical factors. The detection of epithelial cells in bone marrow varies between 25 and 82% in gastric cancer patients and is about 40% in esophageal cancer patients. Univariate analysis revealed that the incidence of epithelial cells in bone marrow is correlated in gastric cancer patients to the Laurén classification, to the lymph node involvement, and to an increased recurrence rate. First results of phenotyping epithelial cells showed that uPA receptor expression is correlated with clinical prognosis in gastric cancer patients. The finding of cytokeratin(CK)-positive cells in bone marrow of esophageal cancer patients is predictive of a reduced relapse-free and overall survival indicating a hematogenous dissemination of viable malignant cells leading to an increased risk of metastatic relapse. Preliminary investigations showed that epithelial cells are tumorigenic and resistant to neoadjuvant therapy in GI tract cancer. In conclusion, immunocytoologically and phenotyping of CK-positive cells might be helpful for tumor staging and to monitor the response of neoadjuvant therapy, but the results should be confirmed in