Abstract:
This article examines the distribution and prognostic importance of urokinase type plasminogen activators (uPA) and plasminogen activator inhibitors (PAI-1) in cases of primary oral squamous cell carcinoma. Tissue from the primary tumor was taken from 79 patients. In order to make an intra-individual comparison, tissue from the healthy mucous membrane of the mouth was taken from 50 patients and metastatic tissue from lymph glands in the neck from 16 patients. The content of uPA and PAI-1 was determined using ELISA. After follow-up, 58 patients with primary surgical therapy were included. Statistical evaluation was carried out using the Kruskal-Wallis test, the Mann-Whitney U-test and the Wilcoxon test. Pearson's product moment correlation was used to determine the relationship between uPA and PAI-1 levels. The median uPA value was 3.43 ng/mg in primary tumor, and for PAI-1 47.1 ng/mg (n=79). There was a significant correlation between uPA and PAI-1 both in the cancerous as well as the healthy tissue (P<0.017), and PAI-1 (P<0.02) levels. The was no significant association between tumor localisation and uPA content in the tumor; for PAI-1 the association was significant (P<0.02) in the individual areas of the mouth. A total of 23 (40%) patients relapsed (local...
n=13, lymph node n=3, local and lymph node n=1, lymph node and skin n=1, other locations n=5.
Such patients had raised uPA (P=0.012) and PAI-1 (P=0.014) levels in the primary tumor. The high
variability of the normal clinical parameters in tumors only has a limited prognostic value because it is
not taken into account in individual cases. Thus determination of the PAI-1 level directly after surgery
could provide an indication of the likelihood of a relapse and thus aid in determining the adjuvant
therapy. This confirms a trend in that tumor associated proteases can also play a key role in oral
squamous cell carcinoma as new, independent, prognostic factors. Whether or not uPA and PAI-1 will
play such a role will be determined in additional multicentre clinical studies.