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The exprssion of Tissue Factor mRNA in bone and soft tissue sarcoma patients

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Backgound:
Many tumor cells elicit procoagulant activity by transmembrane tissue factor (TF) leading to the generation of factor Xa, thrombin and fibrin. TF-FactorVIIa complex, FactorXa, and thrombin can promotes tumor cell invasion, adhesion, proliferation and cytokine, MMPs and VEGF production. It is reported that TF expressed by tumors is demonstrated to be an independent prognostic indicator for overall survival (OS) in carcinoma. As shown above, there are considerable evidences that coagulation factors play a critical role in tumor malignancy. However, there is no report about correlation between TF and bone sarcoma (BS) and soft tissue sarcoma (STS). The purpose of this study is to elucidate the correlation between TF mRNA expression level and clinicopathological parameters and to predict the prognosis of BS and STS patients.
Methods:
This study was performed on tumor tissue samples with histologically verified BS (30 patients) and STS (68 patients). The median age of patients was 47.2 years (range 2-85 years). The median follow-up time of patients was 81 months (range 8-159 months). cDNA were synthesized and TF mRNA expression levels was quantified using a endogenous gene (GAPDH). The relation of TF expression levels with clinicopathological parameters and OS was evaluated.
Results:
TF expression level was enhanced in high grade group than low grade group. TF expression level was higher in the metastatic patents than no-metastatic patients in histological high grade group of STS. In Kaplan Meier analysis, OS were worse for patients with high TF expression group compared with low TF expression group in histological high grade group of STS. However, TF expression level and OS of BS came out of the opposite of STS. These data cannot show statistical significant differences.
Conclusion:
In this study, we reported that high TF expression is thought to be associated with tumor malignancy in STS. This may have a possibility that the measurement of TF expression contribute to not only prediction of tumor malignancy of STS. These need further study.

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