Elevated MMP-7 levels in patients with Systemic sclerosis: correlation with skin and lung involvement

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Zielsetzung
Recent data indicate that fibrotic processes characterized by increased deposition of extracellular matrix proteins are accompanied by a remodelling of the affected tissue. Matrix metalloproteinase-7 (MMP-7, Matrilysin) is a protease synthesized by epithelial and mesenchymal cells and has been shown to degrade a broad range of ECM proteins. For MMP-7 an important role in tissue remodelling associated e.g. with tumor invasion and lung fibrosis has recently been demonstrated.

Methodik
MMP-7 serum levels were determined in 125 patients with SSc and 25 age matched healthy controls.

Ergebnisse
In systemic sclerosis (SSc) patients, an increased serum MMP-7 level of 4.9 e g/ml was found (p< 0.0001) when compared to controls (2.5 i g/ml). SSc patients with a modified Rodnan skin score below 7 had a mean value of 3.1 o g/ml, while those above 7 had a mean value of 5.2 o g/ml (P< 0.003). Interestingly, the clinical diagnosis of pulmonary fibrosis did not correlate with MMP-7 levels, whereas pulmonary hypertension did significantly correlate (p<0.008). Furthermore, lung involvement (as determined by DLCO) correlated negatively with the MMP-7 serum levels (p<0.02).

Schlussfolgerung
These data suggest that in SSc the fibrotic process, particularly of the skin and lung, is accompanied by an ongoing aberrant remodelling process involving MMP-7.