

**CHANGES OF TISSUE FLUID HYALURONAN (HYALURONIC ACID)
IN PERIPHERAL LYMPHEDEMA****N-F. Liu, L-R. Zhang**

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ABSTRACT

Hyaluronan (hyaluronic acid or HA) is an important component of the extracellular matrix which is synthesized in the tissue, transported in lymph and catabolized mainly in lymph nodes and the liver. In 39 patients with chronic peripheral lymphedema, the HA content in lymphedematous interstitial fluid was measured using radioimmunoassay. For comparison, the concentration of HA in serum and normal tissue fluid were also determined. These samples were also tested for protein concentration. The results showed that the HA concentration in interstitial fluid of a lymphedema limb was $22 \times 10^3 \pm 10^3$ (aspiration) and $30 \times 10^3 \pm 4 \times 10^3$ (wick) ng/ml which were significantly higher than that in interstitial fluid, serum and lymph of normal limbs (control) and interstitial fluid of limbs with venous edema ($p < 0.001$). The protein concentration in these fluids did not show significant differences between lymphedema and those with normal limbs. The findings suggest that HA stagnates in the limb with impaired lymph drainage which may exert a deleterious effect on the interstitium.