

Plasma Heat Shock Proteins (HSPs) 70 and 47 levels in diabetic foot and its possible correlation with clinical variables in a North Indian Tertiary care hospital.

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Abstract

OBJECTIVE:

HSPs have been proposed to have a role in the wound healing process, supported by finding that its expression is rapidly induced after skin is wounded in animal models. Because of this phenomenon, we have made a hypothesis that circulating HSPs will have any relationship with DFU.

METHODS:

The circulating levels of HSP 70 and HSP 47 were measured in diabetic patients with an ulcer (Group A: n=30), without ulcer (Group B: n=30) and healthy subjects (Group C: n=30).

RESULTS:

Diabetic foot ulcer showed higher median plasma level of HSP 70 [3229.01 (1984.5-4137.1) vs 1625.7 (1435.1-2253.5) vs 1025.7 (835.1-1653.5)] ng/ml and HSP 47 [2.33 (2.118-2.58) vs 0.98 (0.83-1.07) vs 0.58 (0.42-0.68) pg/ml] of the diabetic foot, diabetic control and healthy subjects. Odds ratio and risk ratio for DFU after age adjusted were BMI (>25kg/m²) [OR 1.78, RR 1.35], HbA1c>7% [OR 3.37, RR 1.76], neuropathy [OR 5.79, RR 3.13], retinopathy [OR 3.44, RR 1.82], hypertension [OR 1.54, RR 1.18], and smoking cessation [OR 4.53, RR 2.09].

CONCLUSION:

In the near future, it would be interesting to find out whether this high plasma HSPs precedes in early wound healing mechanism and will have a relationship with type of infections and/or nature of therapy for infection in such patients.

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KEYWORDS:

Correlation; Diabetic foot ulcer; Outcome; Plasma HSPs (70 and 47)