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**Original article:**

**TNF-α correlates oxidative stress-induced cardiomyopathy: A comparative study among Indian male and female diabetic patients**

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**Abstract:**

**Introduction:** Diabetic cardiomyopathy (DCM) is common disorder of the heart muscle and it contributes significantly to cardiovascular related death in the diabetic population. Oxidative stress plays a significant role in the development of diabetic cardiomyopathy. Tumour necrosis factor (TNF-α) which is increasingly expressed in the failing heart and in blood may stimulate oxidative stress.

**Objective:** we investigated the relationship of TNF-α with oxidative stress in well and poorly controlled type-1 & type-2 diabetic cardiomyopathic Indian male and female subjects.

**Material and Methods:** We measured plasma TNF-α, blood HbA1C & oxidative markers (MDA, SOD,) in the remnants samples, which come in lab for various investigations and collect ECHO data for the same subjects from various heart clinics.

**Results:** Diabetic cardiomyopathic subjects (female) with poorly controlled hyperglycemia had significantly lower levels of SOD, and significantly higher HbA1C, MDA, than male subjects and well controlled glycemic subjects. Significant correlation of ECG & ECHO data with TNF-α and oxidative markers were observed in type-1 & type 2 diabetic cardiomyopathic Indian male and female subjects.

**Conclusion:** Our data suggest strong correlation between inflammatory mediator and oxidative stress, and indicates that TNF-α plays a vital role in the type-1 & type-2 diabetes induced cardiomyopathy.

**Keywords:** Diabetic cardiomyopathy, Oxidative stress, TNF-α, Inflammation, Hyperglycemia.