

## **Radiographic Abnormalities in the Feet of Diabetic Patients with Neuropathy and Foot Ulceration.**

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### **Abstract**

#### **OBJECTIVE:**

People with diabetic neuropathy are frequently prone to several bone and joint abnormalities. Simple radiographic findings have been proven to be quite useful in the detection of such abnormalities, which might be helpful not only for early diagnosis but also in following the course of diabetes through stages of reconstruction of the ulcerated foot. The present study was designed to identify the common foot abnormalities in south Indian diabetic subjects with and without neuropathy using radiographic imaging.

#### **METHODS:**

About 150 (M:F 94:56) subjects with type 2 diabetes were categorised into three groups: Group I (50 diabetic patients), Group II (50 patients with neuropathy), and Group III (50 diabetic patients with both neuropathy and foot ulceration). Demographic details, duration of diabetes and HbA1c values were recorded. Vibration perception threshold was measured for assessment of neuropathy. Bone and joint abnormalities in the feet and legs of the study subjects were identified using standardised dorsoplantar and lateral weight-bearing radiographs.

#### **RESULTS:**

Radiographic findings of the study subjects revealed that those with both neuropathy and foot ulceration and a longer duration of diabetes had more number of bone and joint abnormalities. Subjects with neuropathy alone also showed presence of several abnormalities, including periosteal reaction, osteopenia, and Charcot changes.

#### **CONCLUSIONS:**

The present findings highlight the impact of neuropathy and duration of diabetes on the development of foot abnormalities in subjects with diabetes. Using radiographic imaging can help in early identification of abnormalities and better management of the diabetic foot.