Plantar pressures in diabetes with no known neuropathy.

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Abstract

BACKGROUND:

The aim of the present study was to investigate associations of arch type and gender with plantar pressure distribution in non-diabetic subjects and subjects with type 2 diabetes mellitus (T2DM) without peripheral neuropathy (PN).

METHODS:

Plantar pressures were recorded in 62 subjects with T2DM but without PN (mean [±SD] age 63.6 ± 7.6 years, body mass index [BMI] 24.3 ± 2.9 kg/m(2) , and duration of diabetes 7.0 ± 3.0 years) and in 63 non-diabetic adults (62.5 ± 8.5 years of age; BMI 22.4 ± 2.5 kg/m(2)) in static stance using a foot analyzer. Data were collected from both feet and were analyzed for their association with disease, arch type, and gender using the Mann-Whitney U-test and Chi-squared test, respectively.

RESULTS:

There were significant differences in plantar pressures between the left and right feet in T2DM subjects, regardless of gender, and their metatarsal heads were overloaded. There were poor correlations between the overloaded plantar pressures and both foot arch and gender for all diabetic subjects. However, there were no differences in pressures at different zones between the diabetic and non-diabetic subjects.

CONCLUSIONS:

There were no differences in plantar pressures between non-diabetic and T2DM subjects without PN. Furthermore, there were no significant correlations between plantar pressures in diabetic subjects and either arch type or gender. However, there were significant differences in plantar pressures between the right and left feet.

KEYWORDS:

arch height; arch type; diabetes; foot analyzer; plantar pressures;
足弓高度，足弓类型，糖尿病，足部分析仪，足底压力