

Vertebral and non-vertebral low-traumatic fractures in patients with type 2 diabetes mellitus (T2DM).

Yalochkina T.O., Belaya Z.E., Rozhinskaya L.Y., Antsiferov M.B., Shestakova M.V., Dzeranova L.K., Melnichenko G.A.

Endocrinology Research Centre, Moscow, Russian Federation

OBJECTIVES

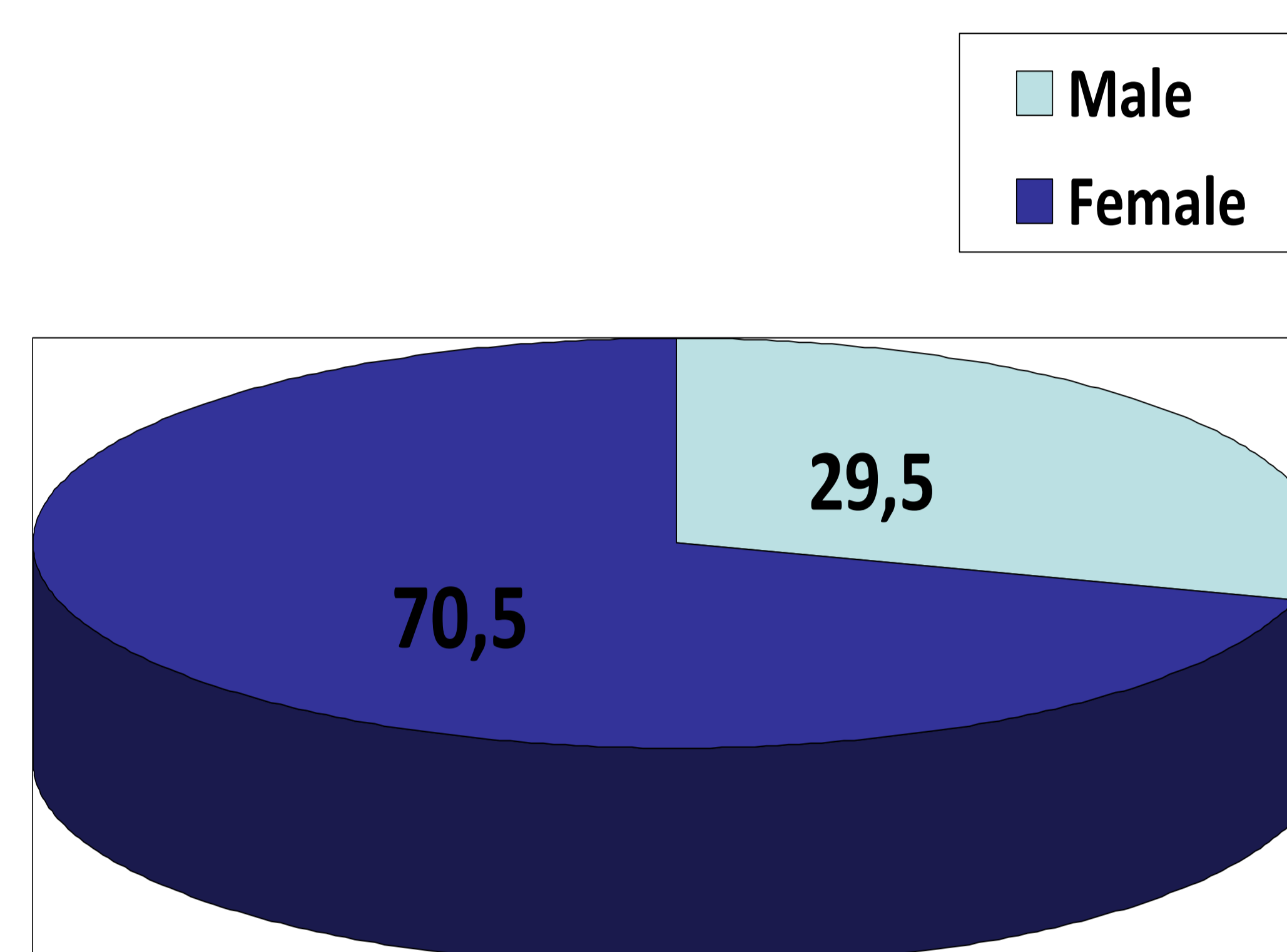
Recent evidence suggests that the skeleton might be another affected organ in patients with type 2 diabetes mellitus (T2DM). This study evaluates the prevalence of low-traumatic vertebral and non-vertebral fractures and their risk factors in subjects with T2DM.

RESULTS

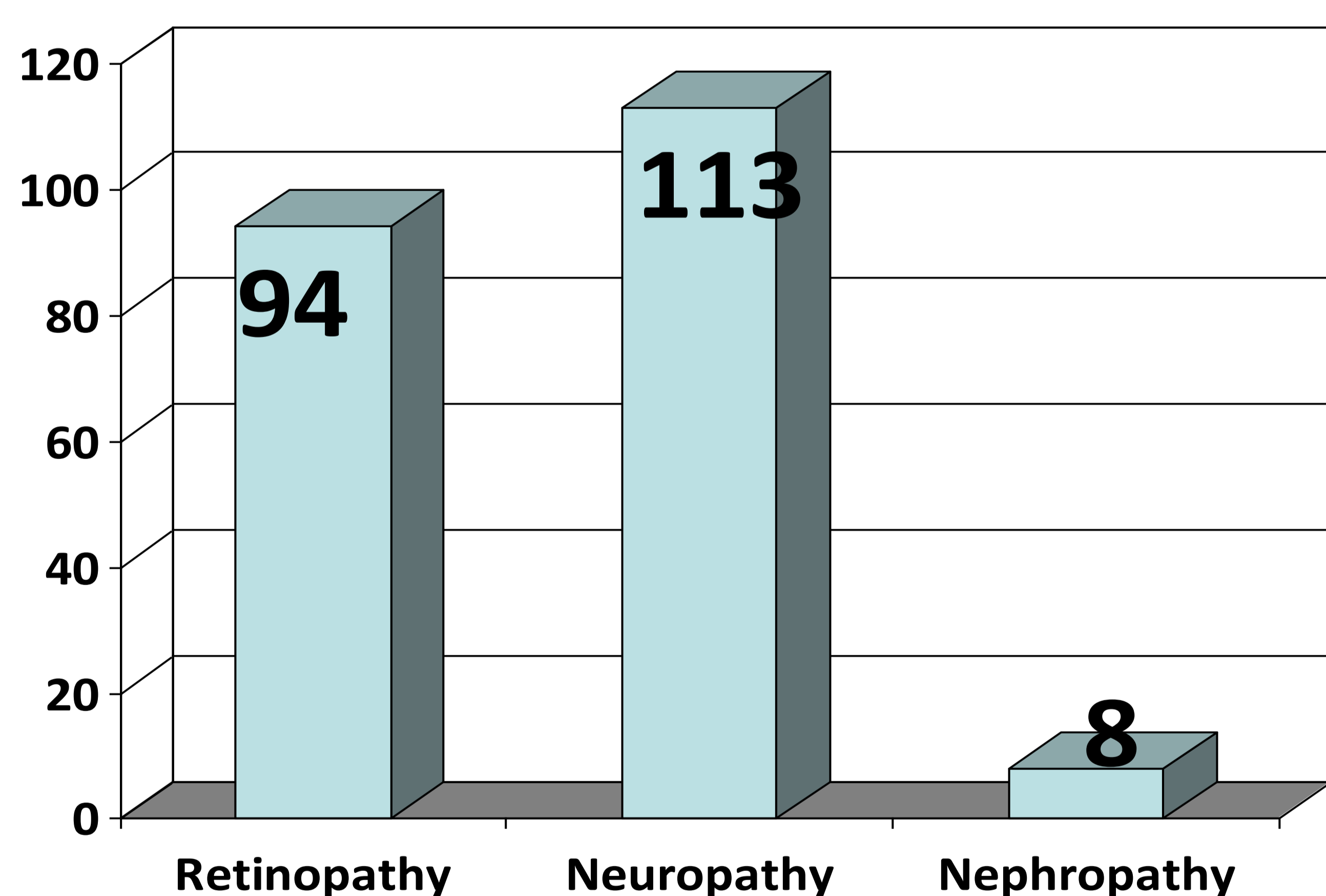
200 (141 (70.5% females) consecutive T2DM patients were enrolled. The median of age (Q25–Q75) 66 (60–74 years), BMI 31 (27–36) kg/m², disease duration 8 (4–14) years (neuropathy was diagnosed in 113 patients, retinopathy-94, nephropathy-8), HbA1c 7.4 % (6.7–8.5). Fractures were reported in 68 (34 %) patients, in 26 (13%) cases there were vertebral fractures and in 52 (26%) low-traumatic non-vertebral fractures. In 10 cases multiple fractures both vertebral and/or non-vertebral were registered. The most frequent fractures were of low-extremities including 2 hip and 26 shin fractures; the upper-extremities were the next most frequent location including 3 humerus, 19 wrist and 4 ulna fractures. Subjects with any fractures were older $p=0.004$, but did not differ in disease duration $p=0.196$, HbA1c $p=0.99$, or calcium intake $p=0.62$. It seems that subjects with retinopathy fractured more -42.9% as compared to patients without retinopathy -27.6% $p=0.001$, no difference in any other complications were found. Subjects with fracture had lower grip strength in both hands 30.0 (24.6-39.5) vs 26.5 (22.7-31.5) dAN $p=0.019$ right hand; 27.7 (22.1-37.5) vs 25.0 (20.0-31.8) dAN left hand $p=0.013$

METHODS

We invited outpatients with T2DM, who were under observation in a single outpatient clinic. The subjects were interviewed regarding the presence of low-traumatic fractures and underwent lateral X-Ray imaging from T4 to L5. Age, sex, postmenopause and disease duration, complications, HbA1c, calcium intake, risk factors for fracture (FRAX) were registered. Handgrip strength was measured by dynamometer.



Complications of T2DM (number of enrolled patients)



CONCLUSIONS

Patients with T2DM have high prevalence of low-traumatic fractures (34%), mostly of low-extremities, which might be related to both ageing and general frailty as well as diabetes complications such as retinopathy.

References

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Difference in complication of T2DM (% of fractures)

