

## **Thiazolidinediones And Fractures In Men And Women**

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### **Background**

Clinical trials and meta-analyses have found that rosiglitazone maleate, a thiazolidinedione that is prescribed for type 2 diabetes mellitus, increases the risk of fractures in women. The association between the use of thiazolidinediones and fractures in men and women is not adequately understood.

### **Objectives**

The purpose of this study is to investigate the relationship of treatment of diabetes mellitus type II with thiazolidinediones and fracture risk

### **Study Design & Methods**

From January 2011 to December 2018, 8000 patients with diabetes type II (43% women) with a mean age of 59 years were involved. The patients received thiazolidinediones (pioglitazone or rosiglitazone, 250 and 750 respectively) or sulfonylureas (n=7000). Patients who had received these drugs or insulin within the previous 730 days before the possible inclusion in the study were excluded. The median duration of therapy was 460 days for thiazolidinediones and 534 days for sulfonylureas

### **Results**

In the 8-year study period, 220 fractures were occurred (165 peripheral fractures - 75% and 17 spine fractures-7,7%). From the data analysis it was observed that treatment with thiazolidinedione was associated with a 28% increased risk of peripheral fractures compared with treatment with sulfonylurea (hazard ratio 1,28). Women who treated with pioglitazone had a significant difference in the incidence of peripheral fractures compared with those receiving sulfonylureas (hazard ratio 1,77), which was not observed with rosiglitazone (hazard ratio 1,17). Compared with exposure to sulfonylureas, exposure to pioglitazone was associated with more

peripheral fractures in men (hazard ratio 1,61), but we did not observe a similar association with exposure to rosiglitazone (hazard ratio 1,00).

### **Conclusions**

Although most robust studies are needed to accurately determine the relationship of thiazolidinediones with fracture risk, the apparent positive correlation (in particular of pioglitazone) with peripheral fractures could discourage clinicians from prescribing them.