

# Risk of bone fractures associated with use of diabetes drug

September 29 2009

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Research published this week in the open access journal, *PLoS Medicine*, suggests that there is an association between thiazolidinediones - a type of drug introduced in the 1990s to treat type 2 diabetes - and bone fracture.

Ian Douglas of the London School of Hygiene and Tropical Medicine and colleagues searched the UK General Practice Research Database, a computerised record of clinical records from over 6 million patients registered at 400 general practice surgeries in the United Kingdom. They identified 1,819 individuals aged 40 years or older who had a recorded bone fracture and who had been prescribed a thiazolidinedione at least once and conducted a self-controlled case-series study.

This is a study that compares how often an event (in this case bone fracture) occurs in a population of people during the period when they are taking a particular medication (in this case a thiazolidinedione drug) against the period when they are not taking that medication.

Adjusting for age (as older people are at a higher risk of bone fracture), the researchers found that in the group of people identified nearly one and half times as many fractures occurred when people were taking thiazolidinediones than when they were not taking these drugs. The increased risk of fracture was observed in both men and women and applied to a wide range of fracture sites on the body. The study also found that the risk of fracture increased as the duration of treatment with the drug increased.

The main advantage of the study design is that it eliminates the possibility that differences between people who do and do not get prescribed a drug contribute to the results. The researchers acknowledge that as with any study there could be other sources of bias because it is observational and not a randomised trial. Nevertheless, the findings are in keeping with findings from recent trials that suggested a link between thiazolidinediones and bone fracture. The researchers conclude that the results "should be taken into consideration in the wider debate surrounding the possible risks and benefits of treatment with thiazolidinediones.

More information: Douglas IJ, Evans SJ, Pocock S, Smeeth L (2009) The Risk of Fractures Associated with Thiazolidinediones: A Self-controlled Case-Series Study. PLoS Med 6(9): e1000154.  
[doi:10.1371/journal.pmed.1000154](https://doi.org/10.1371/journal.pmed.1000154)

Source: Public Library of Science ([news](#) : [web](#))

Citation: Risk of bone fractures associated with use of diabetes drug (2009, September 29)  
retrieved 26 April 2024 from  
<https://medicalxpress.com/news/2009-09-bone-fractures-diabetes-drug.html>

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