Thiazolidinediones and Cancer: Duplicate Publication Bias?

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Disclosures of potential conflicts of interest may be found at the end of this article.

A meta-analysis of epidemiological studies reported no increased risk for cancer in users of thiazolidinediones (TZDs). Subanalyses showed a small 1.1- to 1.2-fold increased risk for bladder cancer with TZD use [1]. This analysis was probably distorted by “duplicate publication bias,” because it included three different studies that used the same data source: the United Kingdom General Practice Research Database [2–4]. One study evaluated breast cancer [2], and the other two studies evaluated bladder cancer [3, 4]. One of the basics of meta-analysis is that it should not include correlated data. Although the periods of data collection and choices of study design differed, the study populations in each paper had a substantial overlap. As a result, the statistical power of the meta-analysis is artificially increased. Because every study

showed a positive association between TZDs and cancer, the pooled effect estimate is likely to be overestimated, in particular for bladder cancer [5]. This has previously been demonstrated in trials of the efficacy of ondansetron to prevent postoperative nausea and vomiting [6]. Sensitivity analysis (exclusion of duplicate studies) is probably a useful technique to deal with this issue. We wonder how the overall findings would have been, when only one General Practice Research Database study was included in every (sub)analysis that was presented [1].

DISCLOSURES

The authors indicated no financial relationships.

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