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# Hospitalization rates of generic metoprolol compared with the original beta-blocker in an epidemiological database study.

**Ahrens W**, **Hagemeier C**, **Mühlbauer B**, **Pigeot I**, **Püntmann I**, **Reineke A**, **Steinbach M**, **Timm J**.

Bremen Institute for Prevention Research and Social Medicine, Bremen, Germany. ahrens@bips.uni-bremen.de

PURPOSE: A less favourable galenic profile of generic formulations of the beta-blocker metoprolol raised the concern of a higher risk for serious cardiovascular (CV) events. We assessed hospital admission rates for CV diseases and prescription prevalences of various drugs using claims data of statutory health insurances (SHIs) to compare the incidence of serious CV events among users of original and generic metoprolol. Index events included hospitalization due to myocardial infarction, hypertensive crisis and stroke. METHODS: Data files of three SHIs were linked with dispensing data of drug prescriptions from each pharmacy's electronic data processing centre on an individual basis. Incidences of hospital admissions among patients receiving original metoprolol and among patients treated with the generic equivalent were compared by logistic regression, stratified for Bremen and the rest of Northern Germany. Risk estimates and confidence intervals were adjusted for confounders. RESULTS: A total of 49,673 patients receiving metoprolol were identified within a cohort of 3,649,285 insurance members. While the crude analysis revealed a higher risk for index events in patients receiving the generic drug (Bremen: RR 1.45; Northern Germany: RR 1.14), no elevated risk remained after confounder adjustment (Bremen: OR 1.06; Northern Germany: OR 1.04). Among co-morbid conditions considered as confounders, a previous CV event and an elevated thromboembolic risk exerted the strongest effect on index events. CONCLUSIONS: SHI data are a valuable source for pharmacoepidemiology and health services research in Germany. Incidence rates of serious CV events did not reveal any noticeable differences between the original and the generic group after confounder adjustment. Copyright 2007 John Wiley & Sons, Ltd.

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