Epidemiology

3.12 Angiotensin II Receptor Blockers and Risk of Myocardial Infarction: a Meta-Analysis of Randomized Clinical Trials Updated Until May 1, 2008

M. Volpe (1), G. Tocci (1), B. Trimarco (2), G. Mancía (3)

(1)UOC Cardiologia, Università La Sapienza di Roma II Facoltà Medicina, Roma;

(2)Università degli Studi di Napoli "Federico II", Napoli; (3)Università di

Milano-Bicocca, Milano, Italy

Introduction. In 2004, an editorial published by Verma and Strauss, entitled *Angiotensin receptor blockers (ARBs) and myocardial infarction (MI)*, examined through a partial analysis of individual trials the use of ARBs in a variety of clinical settings. This editorial had a vast echo on the lay press and media and generated disappointment and concern among physicians, because of its provocative subtitle: *ARBs may increase MI and patients may need to be told*. Our previous analysis demonstrated in 2005 that there was no evidence of increased risk of MI with ARBs.

Methods. In order to explore the potential influence of ARBs on MI, we performed a more comprehensive meta-analysis, including all major international, randomized trials (18 trials, n=98.393 patients, age 66.4± 4.5 years, systolic/diastolic BP 144.5/82.4 vs. 144.8/82.7 mmHg; P=NS), using ARBs compared with another active drug or conventional therapy (placebo), and clearly reporting rates of MI; current analysis is updated until May 1, 2008.

Results. After a mean follow-up of 3.1 years, a total of 2175/42240 and 2130/42020 cases of MI were recorded in ARB versus comparator arms, respectively. No significant differences in risk of fatal and non-fatal MI between treatment with ARBs and placebo [RR (95% CI): 0.596 (0.271-1.313)] or active treatment [RR (95% CI): 0.968 (0.727-1.288)] were observed, and the same result was obtained when considering only trials in which ARBs were compared with ACE Inhibitors [RR (95% CI): 1.006 (0.923-1.096)], or when pooling all trials together [RR MI (95% CI): 0.986 (0.875-1.112)]. Finally, analysis of trials comparing combination therapy based on ARBs +ACE Inhibitors versus other treatments or placebo shows that MI risk substantially lies on the indifference line [RR (95% CI): 0.986 (0.858-1.134)].

Conclusions. Our largest and most updated analysis substantially confirms that nowadays there is no evidence of increased risk of MI when treating patients with ARBs.