Tuesday, January 29, 2008

2:00 pm

74. The Safety of Aprotinin Use During OPCAB: Results From a Randomized, Prospective Trial

M.C. Grant; Z. Kon; E. Christenson; S. Kallam; N. Burris; J. Gu; R. Pierson; R.S. Poston
University of Maryland School of Medicine, Baltimore, Maryland

FINANCIAL DISCLOSURE R.S. Poston, Guidant/Boston Scientific, scientific research support less than $50,000; Bayer, scientific research support less than $100,000.

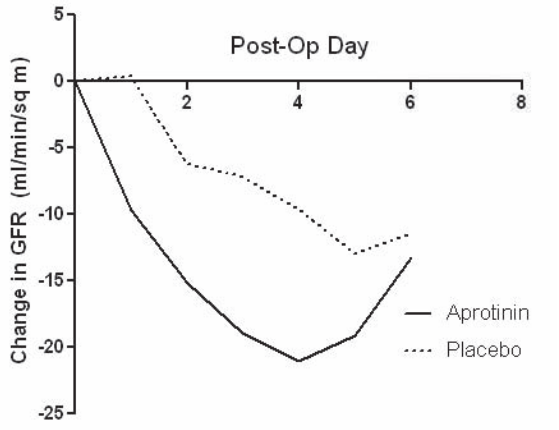
REGULATORY DISCLOSURE This presentation describes the off-label use of Aprotinin which is FDA approved. The off-label use is off-pump Coronary Artery Bypass.

Background: Recently published phase IV, observational studies have suggested that aprotinin use during cardiac surgery increases the risk of thrombotic/adverse events. We performed a randomized study in order to investigate the safety of aprotinin in OPCAB.

Methods: During OPCAB, patients were randomized to receive an infusion of saline (n=60) or aprotinin (2x106 KIU loading dose, 0.5x106 KIU/h [n=60]). Plasma aprotinin levels (KIU/ml) were monitored before, 30 minutes after and 4 hours after drug administration. Myocardial infarction (troponin I level) and renal dysfunction (glomerular filtration rate (GFR) based on Cockcroft equation) were monitored daily. Graft patency (CT angiography) and DVT (duplex ultrasound) were analyzed on day 5.

Results: The aprotinin group showed a decrease in postoperative GFR versus placebo (P<0.03) which resolved by day 5. (Figure) Peak aprotinin level was linearly correlated with GFR on day 3 (R=0.55, p<0.03) and strongly predicted the development of renal dysfunction (c-statistic=0.9400, P<0.02) with 265 KIU/ml providing the cutoff value with the optimal sensitivity and specificity. The aprotinin group showed lower postoperative Tn-I levels (2.1±1.3 v 4.3±3.1 ng/ml, P<0.02); DVT and vein graft occlusion at one week were 3.5% and 5.6% in the placebo group and 3.2% and 3.6% in the aprotinin group (p=NS for both).

Conclusion: Consistent with data from prior randomized trials, aprotinin did not lead to thrombotic events after OPCAB and reduced myocardial release of Tn-I. However, a peak aprotinin level of >265 KIU/ml strongly predicted transient renal dysfunction, supporting the adoption of weight-based dosing strategies.



Notes