REQUESTED COMMENT CONCERNING: LIDOFLAZINE

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Lidoflazine is a drug that was developed by the Janssen Research Laboratories (Janssen Pharmaceuticals, Beerse, Belgium) several decades ago but never became available on the international market. It has strong nucleoside transport inhibitory properties and can be classified as an ARA or adenosine regulating agent.¹ Recently, there has been increasing interest in this type of drugs for myocardial protection, because they all enhance the tissue content of adenosine in the myocardium. Adenosine is widely known for its cardioprotective properties against ischemic damage.² Accumulation of adenosine in the myocardium can be obtained by prevention of its breakdown (for example, by inhibition of its transport from the myocyte to the endothelial cell where adenosine is catabolized) or by stimulating its production. The latter can be done by infusing the precursor AICA riboside (5-amino-4-imidazole carboxamide riboside). This drug is now under clinical investigation in large multicenter studies in the United States, Canada, and Europe.

The study of Akpinar, Vanerman, and Wellens is interesting in so far as it demonstrates that extensive coronary bypass grafting can safely be done on the fibrillating heart using one single period of aortic cross-clamping combined with lidoflazine pretreatment. The clinical outcome was the same as when cardioplegia was used. However, the study does not provide scientific proof

for the cardioprotective properties of lidoflazine because the study was not placebo controlled. I realize, however, that a placebo-controlled study is unethical because prolonged uninterrupted periods of ischemia, mainly on the fibrillating heart, will cause considerable myocardial damage.³ The lack of significant release of creatine kinase-MB as reported by Akpinar's group and the excellent clinical outcome suggest that myocardial injury is virtually absent in this setting. Although there is experimental evidence that lidoflazine will prevent myocardial damage even after 1 hour of normothermic global myocardial ischemia,⁴ these data cannot be extrapolated as such to the clinical situation and the diseased human heart. Therefore, I believe that the technique described by Akpinar's group should not be advocated as generally applicable. Fast and skillful surgeons can use this technique, but they should realize that they might be balancing on a slack rope.

REFERENCES

1. Engler RL, Gruber HE. Adenosine: an autacoid. In: Fozzard HA, Haber E, Jennings RB, et al., eds. *The heart and cardiovascular system*. New York: Raven Press, 1992:1745-64.
2. Belardinelli I, Linden J, Berne RM. The cardiac effects of adenosine. *Prog Cardiovasc Dis* 1989;32:73-97.
3. Reimer KA, Lowe JE, Rasmussen MM, Jennings RB. The wave-front phenomenon of ischemic cell death. *Circulation* 1977;56:786-91.
4. Flameng W, Daenen W, Borgers M, et al. Cardioprotective effects of lidoflazine during 1 hour normothermic global ischemia. *Circulation* 1981;64:796-807.

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FIRST CLINICAL USE OF A HEPARIN REMOVAL DEVICE: AN ALTERNATIVE TO PROTAMINE

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The reversal of heparin with protamine sulfate after termination of cardiopulmonary bypass (CPB) can elicit severe life-threatening reactions. These reactions can

occur despite such precautions as using a test dose of protamine, slow injection into the arterial side of the circulation, and premedication with steroids or H-1/H-2 blockers. The adverse reactions occur more frequently in patients previously exposed to protamine, such as patients having second cardiac operations, patients with diabetes who receive neutral protamine Hagedorn (NPH) insulin, and patients with preoperative pulmonary hypertension. As an alternative to protamine administration, the Heparin Removal Device was developed by Research

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