Utility of Bypass Surgery in Acute MI

To the Editor:

The article by John Cappola et al (Chest 1989; 95:1309-15) states that randomized studies assessing the efficacy of coronary artery bypass surgery in acute myocardial infarction are not available. We wish to draw their attention to our article, “Urgent Surgical Reperfusion in Acute Evolving Myocardial Infarction; a Randomized Controlled Study” published in Circulation 1988; 79(3):1171-78. This work was performed at the University of Ottawa Heart Institute, Ottawa Civic Hospital, comparing the standard medical management of acute evolving myocardial infarction and aorto-coronary bypass graft surgery. Sixty-eight patients presenting within 4 h of the onset of chest pain were randomized into medical and surgical groups. Our conclusions were that urgent surgical reperfusion in acute evolving myocardial infarction was safe and effective and appeared to reduce early and late mortality. However, at three months post infarction there was no significant differences in the ejection fraction in the survivors between the two groups.

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Chest Pain—Another Adverse Reaction to Vancomycin

To the Editor:

Vancomycin is an effective agent against Staphylococcus aureus and Staphylococcus epidermidis. It is especially indicated in serious infections due to these organisms in patients who are allergic to penicillins. Nephrotoxicity, ototoxicity, hypotension, flushing and neutropenia have been described as adverse reactions to vancomycin. Few reports have also described a strange and poorly recognized side effect called "pain and spasm syndrome." We describe a patient who presented chest pain, rash and neutropenia related to vancomycin therapy.

A 24-year-old woman was admitted to the hospital because of a four-day history of fever. She was a heroin abuser during the last three years. One year before entry, the diagnosis of staphylococcal endocarditis was made and cloxacillin therapy initiated, but had to be stopped because of severe neutropenia and was replaced by vancomycin therapy. No other side effects were observed at that time.

On physical examination, the patient appeared severely ill. Blood pressure was 140/70 mm Hg, heart rate 96 bpm, and temperature 39°C. There were no signs of thrombophlebitis, and chest examination was normal. Laboratory data showed a WBC of 15 x 10^9/L, erythrocyte sedimentation rate of 43 mm and hematocrit of 39 percent. Blood glucose, liver and renal function tests, and urinalysis were normal. A test for human immunodeficiency virus antibodies was positive by ELISA method. Two blood cultures were positives for Staphylococcus aureus sensitive to cloxacillin and vancomycin.

A chest x-ray film, abdominal ultrasonography, and echocardiogram were normal. Because of previous cloxacillin-related neutropenia, vancomycin therapy was started at dose of 500 mg every 6 h. The drug was administered by intravenous infusion of a 500 ml 5 percent dextrose solution during a 60-min period. The second day of treatment, the patient complained of retrosternal pain immediately after the administration of vancomycin; this chest pain was repeated daily after every dose of vancomycin during the following five days. An electrocardiogram, new chest x-ray film, another echocardiogram and perfusion lung scintigraphy were normal. Paracetamol was administered and infusion rate of vancomycin solution was prolonged to 90 min. The chest pain diminished and disappeared after vancomycin was withdrawn. Simultaneously, on the third treatment day the patient presented with a rash over her neck, trunk and upper arms which improved with antihistaminic therapy. Finally, on the tenth treatment day, leucocyte count was 2 x 10^9/L which decreased to 0.9 x 10^9/L on the fifteenth day. Rash disappeared and leucocyte count returned to normal two weeks after stopping vancomycin therapy. The patient was discharged symptom-free.

"Pain and spasm syndrome" was first described by Gatterer in a patient who presented a severe "lumbosacral spasm with pain radiating down both legs" during vancomycin therapy. This episode repeated twice after vancomycin infusion. The same author described two other patients with similar symptoms, but this time localized in the chest.

Intravenous vancomycin can induce hypotension and it has been suggested that a decrease in arterial coronary flow can occur, resulting in myocardial ischemia and chest pain. This possibility was ruled out in our case because there was no substantial change in blood pressure after vancomycin infusion and no electrocardiographic abnormalities were found. Other causes of chest pain were reasonably excluded. In our patient, the improvement of both side-effects (rash and "pain and spasm syndrome") after prolongation of vancomycin infusion rate and after antihistaminic therapy suggests that these side-effects may be related to an histamine-release phenomenon associated with the infusion rate. Otherwise, the probability that vancomycin administration caused chest pain in our patient was estimated as "definite" using an adverse drug reaction scale. Also, this case-report contains all categories of data required in an adverse drug reaction, according to Soffer's criteria.

Rash and neutropenia are well recognized side-effects from vancomycin, but "pain and spasm syndrome" is rarely reported, probably because non-specific pain may be overlooked as an adverse drug reaction. Finally, we think that chest pain must be included in the list of side-effects of vancomycin therapy, and it would be avoided with the prolongation of the infusion rate. Further, the recognition of this side-effect may obviate unnecessary complementary and expensive examinations.

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Communications to the Editor