
Preoperative oral pentoxifylline in case of coronary artery bypass grafting with left ventricular dysfunction (ejection fraction equal to/less than 30%)

To the Editor,

We want to congratulate Mansourian et al. (1) on their interesting and original manuscript titled "Preoperative oral pentoxifylline in case of coronary artery bypass grafting with left ventricular dysfunction (ejection fraction equal to/less than 30%)" published in Anatol J Cardiol Dec 31, 2014.

As pentoxifylline has a reducing effect upon inflammation, it is known that the increased plasma levels of TNF-alpha and interleukin (IL)-6 will decrease when pentoxifylline is used during inflammation (2). The section of the manuscript that raises a question in our minds is the unexpected difference in the TNF-alpha and interleukin levels of oral pentoxifylline, which was started 3 days before the operation, in the blood samples obtained preoperatively from the control and pentoxifylline groups. The mean preoperative levels of TNF-alpha and IL-6 in the control group were

139.0 and 133.4, respectively, whereas the corresponding levels in the group treated with pentoxifylline were in contrast to the expected values, 472.0 and 195.0, respectively; As opposed to the expected results, these markers of inflammation were found to be significantly higher in the pentoxifylline group. How can we explain this paradox? On the other hand, as seen in Table 2, the TNF-alpha and IL-6 levels were observed to be significantly decreased following surgery in the control group. Considering the inflammation-triggering effect of surgery, how can the decreased inflammation in the control group be explained?

Pentoxifylline is known to be a non-selective phosphodiesterase (PDE) inhibitor that is used in the treatment of peripheral arterial disease. It produces changes in red blood cells, decreases blood viscosity, and most importantly, it inhibits platelet aggregation (3). It was emphasized in your manuscript that on comparing of the two groups, one treated with drugs to promote platelet aggregation and the other being the control group, bleeding and requirement for transfusion was found to be significantly lower in the group treated with pentoxifylline than in the control group. Were there any differences between the two groups in terms of antiplatelet and anticoagulant use? How did you reach the conclusion that the use of this drug for platelet aggregation resulted in a significantly lower rate of bleeding and requirement for blood transfusion in the group treated with pentoxifylline than that in the control group?

It is well documented that drugs such as statins, renin-angiotensin-aldosterone system antagonists, and carvediol, which are in frequent use prior to a cardiopulmonary bypass, have very significant positive effects on inflammation. Naturally, we think that when comparing groups, the possibility that drugs may affect the results and whether or not any absolute differences exist in the distribution of the groups should be mentioned (4, 5). In addition, it would be appropriate to compare the cardiovascular risk factors such as diabetes, hypertension, and dyslipidemia between the two groups.

Pentoxifylline was reported in this study as having a positive effect on left ventricular ejection fractions. It is well known that image quality is low in transthoracic echocardiography following bypass surgery, and difficulties are encountered while obtaining images of sufficient quality to determine the endocardial borders in a quantitative analysis. The study failed to mention how the LVEF is evaluated in the methods section. Was a visual method or the Simpson method used in this evaluation?

Barçın Özçem, Levent Cerit*, Türker Şahin, Muhammet Akyüz¹, Hamza Duygu*

Departments of Cardiovascular Surgery and *Cardiology, Faculty of Medicine, Near East University; Nicosia-Northern Cyprus

¹Department of Cardiovascular Surgery, Faculty of Medicine, Ege University; İzmir-Turkey

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Address for Correspondence: Dr. Barçın Özçem
Near East University Health Center, Nicosia-Northern Cyprus
Phone: +90 392 675 10 00-1259
E-mail: drbarcinozcem@gmail.com

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