

[5] Marui A, Mochizuki T, Mitsui N, Koyama T, Horibe M. Isolated tricuspid regurgitation caused by a dilated tricuspid annulus. *Ann Thorac Surg* 1998; 66:560-2.

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Reply to the Letter to the Editor

Reply to Chatzis et al.

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Thank you for your Letter to the Editor [1] regarding our report 'Tricuspid valve repair in a case with congenital absence of left thoracic pericardium'. We appreciate your comments and agree that congenital elements in partial and complete absence of pericardium must be considered. Associated anomalies including mitral stenosis, atrial septal defect, patent ductus arteriosus and tetralogy of Fallot can be found in about 30% of the cases reported with congenital pericardial defect [2-4]. A case of congenital tricuspid valve insufficiency or Ebstein anomaly associated with a pericardial defect was not reported yet. You presented recently the first case of congenital tricuspid insufficiency associated with partial absence of the right-sides pericardium.

In our case we reported the tricuspid annulus was widely dilated due to heart displacement and stretching of the right ventricular anterior wall. The tricuspid valve leaflets appeared of normal structure. The anterior tricuspid leaflet had a normal size and shape but was disrupted from the tricuspid annulus. There existed no further congenital anomalies in this case beside the absence of left thoracic pericardium.

It is to emphasize that any larger pericardial defect including right sided absence of pericardium has an impact on the geometry of the heart and may alter the integrity and function of the atrioventricular valves although a major cardiac displacement is not apparent. In addition we have to be aware that the risk for valvular endocarditis is increased in valvular heart disease and observed valvular thickening or attenuation can be caused by endocarditis [5].

References

[1] Chatzis AC, Giannopoulos NM, Sarris GE. Is congenital tricuspid insufficiency (CTI) as rare as it seems to be? *Eur J Cardiothorac Surg* 2005;27:728-729.

[2] Gray SW, Skandalakis JE. The embryological basis for the treatment of congenital defects. In: Gray SW, Skandalakis JE, editors. *Embryology for surgeons*. Philadelphia: W.B. Saunders; 1972.

[3] van Son JA, Danielson GK, Schaff HV, Mullany CJ, Julsrud PR, Breen JF. Congenital partial and complete absence of the pericardium. *Mayo Clin Proc* 1993;68:743-7.

[4] Southworth H, Stevenson CS. Congenital defects of the pericardium. *Arch Int Med* 1938;61:223-40.

[5] Horstkotte D, Follath F, Gutschik E, Lengyel M, Oto A, Pavie A, Soler-Soler J, Thiene G, von Graevenitz A. The task force on infective endocarditis of the European society of cardiology. *Eur Heart J* 2004;25: 267-76.

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Letter to the Editor

The effect of single low-dose methylprednisolone on the cardiopulmonary bypass-induced inflammatory response

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Keywords: Methylprednisolone; interleukins; Coronary surgery; Cardiopulmonary bypass

We read with great interest the article by Bourbon and colleagues [1]. Systemic inflammatory response (SIR) related to cardiac surgery is a complex process with several triggering factors. Anaesthetic agents, many drugs used in the perioperative period, extracorporeal circulation techniques and specific equipment, transfusion of blood and/or blood products, myocardial preservation methods, unavoidable myocardial injury that was not defined as perioperative myocardial infarction with the usual criteria, as well as many other characteristics belonging to the patient have an interactive effect on SIR. We suppose that many variables should be taken into account in both the design and analysis of such studies, and should be reported in detail. Unfortunately, there is no explanation regarding anaesthetic technique and drugs, information on blood and/or blood product usage and their distribution according to the groups in this article.

Although there is only one statistical test 'Mann-Whitney U' that is properly selected for comparison of different groups mentioned in the Methods Section (2.6), this report contains statistical analysis of serial measurements in time within groups.

One of the important findings of this study [1] is the early (aortic post-declamping) peak of oxygen free radical (OFR) level (Fig. 4). However, this may be in association with myocardial injury that needs to be questioned. This relation could be enlightened by high specific markers of myocardial injury such as Troponin T or Troponin I enzyme assessment. Conventional coronary artery bypass surgery is successfully performed in most patients without major complication,

but a small amount of myocardial injury seems a common and sometimes ignored phenomenon which is closely related to OFR level and triggered cytokine release. We expected this report would be improved with the addition of post-operative haemodynamics data along with a short follow-up result.

The first sentence of the Results Section (3.1.1) does not fit with the graphic presentation (Fig. 2); and the figure explanations (Figs. 2 and 3) on group representations (circle, square, triangle) are inconsistent with the graphic labels. We had difficulty understanding the figure explanations probably due to the incorrect use of some critical terms like 'decrease' instead of 'lower'. English is the most preferred language today for sharing scientific knowledge not only in the EU but in the world, and meticulous language use can be facilitated by language editors of journals to ensure comprehensibility of articles. The scientific common language such as numbers and graphic presentations are familiar and strong enough to be informative to non-English speaking readers.

The effect of the single low-dose (1 mg/kg) of methylprednisolone on the inflammatory response induced by extracorporeal circulation has been previously investigated and reported [2]. We totally agree with the authors that further detailed studies are necessary to better understand this complex issue, since there are still many unanswered questions. We think future studies should consider the correlation between circulating cytokines (in both a pro- and anti-inflammatory direction) and the clinical course that was indicated by El Azab and colleagues [3], as well as simultaneous intrinsic glucocorticoid activity and myocardial damage.

We thank the authors and the European Journal of Cardio-thoracic Surgery for bringing this important subject to the readers' attention.

References

- [1] Bourbon A, Vionnet M, Leprince P, Vaissier E, Copeland J, McDonagh P, Debre P, Gandjbakhch I. The effect of methylprednisolone treatment on the cardiopulmonary bypass-induced systemic inflammatory response. *Eur J Cardiothorac Surg* 2004;26:932-8.
- [2] Yilmaz M, Ener S, Akalin H, Sagdic K, Serdar OA, Cengiz M. Effect of low-dose methylprednisolone on serum cytokine levels following extracorporeal circulation. *Perfusion* 1999;14:201-6.
- [3] El Azab SR, Rosseel PMJ, de Lange JJ, Groeneveld ABJ, van Strik R, van Wijk EM, Scheffer GJ. Dexamethasone decreases the pro- to anti-inflammatory cytokine ratio during cardiac surgery. *Br J Anaesth* 2002;88:496-501.

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Reply to the Letter to the Editor

Reply to Ener and Yilmaz

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We fully agree with Dr Serdar Ener when he states that many perioperative variables may have an interactive effect on SIR.

This is particularly true regarding the various anaesthetic agents, the techniques and equipments used for the extracorporeal circulation (CEC), and post-operative medications.

We did not specifically mention it in the article, but, except for the post-operative medications, these various parameters are fully standardized in our department (cf Methods; Technique of the CPB).

They are the object matter of a well defined protocol applied to all our patients undergoing coronary surgery.

Statistics: To compare the three independent patients groups, we used the Mann-Whitney *U*-test which is the method most frequently utilized in all other studies quoted in our article.

Oxygen-free radicals (OFR): We agree that the early (post-aortic cross-clamp release) peak of OFR level may be related to myocardial injury.

As a matter of fact, it would be interesting in a further study to measure an eventual correlation between the high rate of free radicals and specific markers of myocardial injury such as Troponin.

However, the main purpose of our study was to show the effectiveness of the corticosteroids on some known specific parameters of the inflammation induced by CPB.

At the present time there is not enough literature about correlation between the increase of Troponin levels during heart surgery, and the increase of proinflammatory cytokines and the OFR.

Therefore, to assess the effect of corticosteroids, we tested in our study the markers of CPB related inflammation already known in the literature.

Our second care was to use a new method, specific and direct, for the measurement of OFR. This method, based on cytofluometry, has two advantages over traditional methods:

1. Analysis is performed on whole blood without isolation of polynuclear neutrophils (PMN), thereby avoiding