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Reply to the Editor : « Letter to the Editor. Vitale V, Ricci Z, Cogo P. *Preoperative Use of Steroids in Pediatric Cardiac Surgery: New Directions for Future Research?* Ann Thorac Surg 2013 Jul;96(1):375. »

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After performing a prospective double blinded randomized study in neonates undergoing arterial switch operation, we suggested that myocardial protection was provided by preoperative dexa-methasone administration. Vitale and colleagues' [1] comment on our conclusions by pointing out the need of verifying the effect of preoperative dexamethasone in a large, randomized clinical trial. They base their comment on the fact that a multicenter observational analysis did not provide any significant beneficial effect of preoperative dexamethasone administration [2].

We would like to stress out that our data were acquired in a monocentric setting, but in a homogenous group of neonates. Therefore, it is not surprising that there is a discrepancy between our observations and the results of a multicenter observational analysis conducted on data collected in neonates with various cardiac defects over a period of 4 years and operated on in 25 different centers using different protocols of dexamethasone administration [2].

Using a homogenous patient group of neonates undergoing arterial switch operation for transposition of the great arteries in our study, we observed less intramyocardial expression of proinflammatory cytokines, which are harmful to the myocardium, already before connection to cardiopulmonary bypass and before myocardial ischemia in pre-treated neonates [3]. In addition, lower levels of cardiac troponin T were documented in the pretreated neonates compared to the controls, suggesting less myocardial damage.

Based on current knowledge, our results confirm intramyocardial and systemic antiinflammatory shift of the perioperative cytokine balance in neonates treated with dexamethasone that is related to a certain degree of myocardial protection.

It is a fact that different studies showed heterogeneous results regarding the efficacy of steroid use [4-7]. In this regard, a main drawback is the diversity of parameters investigated and clinical end points used to quantify myocardial protection.

We agree completely with Vitale and colleagues on the fact that it appears evident to initiate a randomized clinical trial targeting dosage, time point, and clinical end points reflecting the clinical benefit of dexamethasone administration before cardiac surgery in children.

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