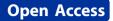


MEETING ABSTRACT



Tetralogy of Fallot - Born to be Bad?

Safak Alpat^{1*}, Sevgen Ç Önder², Mustafa F Sargon³, Murat Güvener¹, Mustafa Yılmaz¹, Rıza Doğan¹, Metin Demircin¹, İlhan Paşaoğlu¹

From World Society of Cardiothoracic Surgeons 25th Anniversary Congress, Edinburgh Edinburgh, UK. 19-22 September 2015

Background/Introduction

TOF repair can be performed with low morbidity and mortality in many centers. However, some patients can experience a prolonged, troublesome postoperative recovery, associated with higher inotopic scores, extended duration of ventilation, longer intensive care and hospital stays. Underlying pathophysiologic explanation for this concept can be defined as combined myocyte injury and fibrosis in right ventricle of patients with TOF that occurred in response to chronic hypoxia and volume overload, even before corrective surgery.

Aims/Objectives

In this study, we analyzed myocyte injury and fibrosis with histopathological and ultrastructural methods in right ventricle outflow tract muscle tissues that obtained from 14 patients with TOF during corrective surgery. Our aim was to determine correlation between these alterations and early surgical outcomes.

Method

Fourteen patients with TOF who underwent surgical repair were recruited. Patients were divided into the cyanotic (SO2>90%, n = 7) and noncyanotic groups (SO2<90%, n = 7). Resection of RV infundibular muscles was performed during standard repair. Myocyte injury and fibrosis were analysed via histopathologically and ultrastructurally. Pre-, intra and postoperative characteristics of patients were recorded.

Results

There were no significant differences between the group with regard to pre- and intraoperative variables (p > 0.05). There was no mortality. However, inotropic score, inotropic therapy duration, intensive care stay and in-hospital

¹Department of Cardiovascular Surgery, Hacettepe University School of Medicine, Ankara, 06100, Turkey

Full list of author information is available at the end of the article



stay were found significantly higher in cyanotic group (p < 0.05). Histopathologic examination revealed that myocyte injury and ultrastructurally defined mitochondria injury score were also higher in cyanotic patients (p = 0.01, p = 0.02). Despite all patients showed some degree of fibrosis in their specimens, cyanotic patients had more severe fibrosis than non-cyanotic patients (p = 0.02). Nonetheless, we found no correlation between histopathological alterations and early surgical outcomes (p > 0.05). Incidentally, we detected positive correlation in between preoperative history of spell and poor early surgical outcomes (p < 0.05).

Discussion/Conclusion

As a result, we showed that myocyte injury and fibrosis had occurred even before TOF repair and cyanotic patients had more severe myocyte injury and fibrosis. Nevertheless, these alterations were not in correlation with early surgical outcomes. Furthermore, history of spell was positively correlated with poor early surgical outcomes.

Authors' details

¹Department of Cardiovascular Surgery, Hacettepe University School of Medicine, Ankara, 06100, Turkey. ²Department of Pathology, Hacettepe University School of Medicine, Ankara, 06100, Turkey. ³Department of Anatomy, Hacettepe University School of Medicine, Ankara, 06100, Turkey.

Published: 16 December 2015

doi:10.1186/1749-8090-10-S1-A194 Cite this article as: Alpat *et al.*: Tetralogy of Fallot - Born to be Bad? *Journal of Cardiothoracic Surgery* 2015 10(Suppl 1):A194.

© 2015 Alpat et al. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http:// creativecommons.org/licenses/by/4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The Creative Commons Public Domain Dedication waiver (http://creativecommons.org/publicdomain/ zero/1.0/) applies to the data made available in this article, unless otherwise stated.