

Is There Any Relationship Between Biomarkers and Echocardiographic Markers in Patients With Pulmonary Stenosis Underwent Balloon Valvuloplasty?

Mohammad El Tahlawi¹, Mohammad Morsy¹, Mohammad Elawady¹, Mahmoud Abdelaziz¹, and Ahmed Eldamhory¹

¹Zagazig University Faculty of Human Medicine

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Abstract

Background: Congenital pulmonary stenosis (PS) is a progressive disease. Balloon pulmonary valvuloplasty (BPV) is the treatment of choice in valvular PS. **Aim:** We aim to study the relationship between biomarkers and echocardiographic markers in valvular PS and to assess the impact of BPV on these markers. **Patients & Methods** Patients with moderate and severe valvular PS amenable for BPV were recruited. Serum troponin I was measured. Echocardiographic assessment of PS and right ventricular (RV) function were done. All patients underwent BPV. Troponin level and echocardiographic data were re-assessed two weeks & six months after BPV. **Results:** Fifty patients with valvular PS were recruited. There was significant correlation between peak SPG and troponin ($p < 0.001$). Troponin was significantly decreased 2 weeks after BPV. Similarly, there was an initial improvement in RV function. After 6 months of follow up, we divided patients into 2 groups: Group-A: 36 patients with no restenosis. Group-B: 14 patients with restenosis. There were high significant differences between both groups regarding troponin level and RV functions with re-elevated troponin in group-B that correlated with peak PG ($r = 0.9$, $p < 0.001$). RV function parameters in group-B became significantly worse 6 months after BPV than those after the initial 2 weeks. **Conclusion** Troponin correlates with the severity of PS and associates with RV dysfunction. Both troponin & RV functions improved with BPV. Recurrent elevation of troponin and impairment of RV function are associated with PV restenosis and could be set as an indication for repeated balloon dilatation of PV.

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