

ABSTRACT

Correlation of Erythrocyte Index and Oxygen Saturation to Cyanotic Spell of Tetralogy of Fallot patient in Dr. Soetomo General Hospital, Surabaya.

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Background: Tetralogy of Fallot with chronic hypoxia is common which characterized by frequent cyanosis episode or 'tet spell' and could aggravate the initial conditions and cause various complications. **Objective:** To analyze correlation of erythrocyte index and oxygen saturation on risk of cyanotic episode in patients with Tetralogy of Fallot which delayed for surgery. **Methods:** This study was designed in cross-sectional. Both case and control group were examined for oxygen saturation used pulse oximetry and complete blood count to obtain red blood cells, hemoglobin, hematocrite, mean corpuscle volume, mean corpuscle hemoglobin concentration level. **Results:** These findings suggest that red blood cells, hemoglobin, hematocrite and oxygen saturation level had significant difference value among two group ($p < 0.001$, $p = 0.002$, $p < 0.001$, $p = 0.003$, respectively). But, no significant difference value in mean corpuscle volume ($p = 0.073$) and mean corpuscle hemoglobin concentration ($p = 0.444$). **Conclusion:** Patient of Tetralogy of Fallot with cyanotic episode has higher red blood cells, hemoglobin, hematocrite as compensatory mechanism for its chronic hypoxia but has lower oxygen saturation. Mean corpuscle volume and mean corpuscle hemoglobin concentration has no significant difference value among both group.

Keywords: Tetralogy of Fallot, cyanotic spell, erythrocyte index, oxygen saturation