デジタルオーラル（ II）44（ P44）

術後遠隔期・合併症・発達1

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[P44-5]Fontan循環における酸素吸入の効果

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Keywords:Fontan, Oxygen supplementation , MRI

Background Oxygen supplementation in human increases systemic vascular resistance and decreases pulmonary vascular resistance, heart rate, and cardiac output. However, the hemodynamic alterations in Fontan circulation caused by oxygen supplementation have not been fully investigated. **Methods** We included 28 patients with Fontan circulation (11 yrs) who underwent cardiac catheterization and MRI at Fukuoka Children's Hospital. Both examinations were performed under different conditions, initially under room air and then under oxygenation with 10 L/min O_2 inhalation. Hemodynamic alternations were compared between before and during oxygenation using the Wilcoxon signed-rank test. **Results** Significant differences were observed as follows ; SaO_2 increased from 95 to 99 %($p < 0.0001$), HR decreased from 85 to 80 /min($p < 0.0001$), Cardiac index decreased from 2.48 to 2.35 L/min/m^2 ($p=0.0006$), CVP decreased from 9.4 to 8.9 mmHg($p=0.029$), PVR decreased from 1.65 to 1.36 unit· m^2 ($p=0.0024$), SVR increased from 28.0 to 30.2 unit· m^2($p=0.0027$), TPG decreased from 5.0 to 4.1 mmHg($p < 0.0001$). **Conclusions** Oxygen supplementation decreased PVR and HR, increased SVR in Fontan circulation as well as in healthy volunteers. The CVP reduction, which was most expected, was significant but was small. Increased left atrial pressure with increased SVR might offset the moderate decrease in TPG. Though the reduction was small, if the effect long last, accumulating abdominal organ injury due to high CVP could be attenuated. Oxygen inhalation therapy may be effective in patients with Fontan circulation.