

# Luaran Klinis Jangka Pendek Tindakan Implantasi Stent pada Alur Keluar Ventrikel Kanan Dibandingkan dengan Operasi Modified Blalock-Thomas-Taussig Shunt pada Pasien Anak dengan Obstruksi Alur Keluar Ventrikel Kanan dengan Shunt Ventrikel = Initial Clinical Outcome Right Ventricular Outflow Tract Stenting Compared to Modified Blalock-Thomas-Taussig Shunt in Children with Right Ventricular Outflow Tract Obstruction with Ventricular Shunt

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## Abstrak

Latar Belakang: Tatalaksana pasien Penyakit jantung bawaan (PJB) dengan obstruksi Alur Keluar Ventrikel Kanan (AKVK) yang belum dapat dilakukan operasi reparasi adalah tindakan paliatif. Implantasi stent AKVK saat ini mulai menjadi alternatif pilihan.

Tujuan: Mengetahui luaran klinis pasien anak usia 0-18 tahun dengan obstruksi infundibular AKVK dengan shunt ventrikel dibandingkan dengan operasi Modified Blalock-Thomas-Taussig Shunt (MBTTS).

Metode: Studi kohort retrospektif dengan menggunakan data sekunder dari rekam medis pasien obstruksi AKVK disertai shunt ventrikel yang dilakukan implantasi stent AKVK atau MBTTS pada Desember 2019-Oktober 2022 di RS PJNHK. Dilakukan pemantauan selama perawatan, dilanjutkan dengan follow up 30 hari setelah tindakan.

Hasil: Total 87 pasien diinklusikan pada penelitian ini; 29 pasien dilakukan implantasi stent AKVK, dan 58 pasien dilakukan tindakan MBTTS, median usia kelompok stent AKVK 29 (1-220) bulan, dan kelompok MBTTS 25,5 (6-227) bulan ( $p=0,739$ ). Luaran klinis MACE pada kelompok stent AKVK vs MBTTS tidak berbeda, rehospitalisasi (1(3,4%) vs 0(0%),  $p=0,333$ ), re-intervensi (3(10,3%) vs 6 (10,3%),  $p=1,000$ ), kematian dalam 30 hari (3(10,3%) vs 2 (3,4%),  $p=0,340$ ). Target saturasi oksigen tercapai tidak berbeda pada kedua kelompok stent AKVK vs MBTTS (93,1% vs 96,5 %,  $p=0,290$ ). Lama rawat ICU pada kelompok stent AKVK dan MBTTS ( 2(0-43) hari vs 3,5(2-9) hari,  $p <0,001$ ), total lama rawat RS antara kedua kelompok (6,5 (3-41) hari vs 7(4-24) hari,  $p=0,048$ ) berbeda bermakna.

Kesimpulan: Luaran klinis tindakan stent AKVK pada pasien anak dengan obstruksi AKVK dengan shunt ventrikel tidak berbeda dengan tindakan MBTTS pada MACE, pencapaian target saturasi oksigen paska tindakan, namun berbeda pada lama rawat di ICU dan total lama rawat di rumah sakit.

.....Background: The main treatment of Congenital heart disease (CHD) patient with right ventricular outflow tract (RVOT) obstruction with ventricular shunt who were unable to undergone surgical repair was palliative procedure. Implantation of RVOT stent has become an alternative option.

Objectives: To determine the characteristics and clinical outcomes of pediatric patients aged 0-18 years with infundibular RVOT obstruction with ventricular shunt compared with Modified Blalock-Thomas-Taussig Shunt (MBTTS) surgery.

Methods: This retrospective cohort study was using secondary data. Basic data was collected through medical records for patients with infundibular RVOT obstruction with ventricular shunt, which underwent RVOT stent implantation or MBTTS in the period of December 2019-October 2022 at the NCCHK.

Monitoring was carried out during treatment and continued with follow-up within 30 days after the

procedure.

Results: A total of 87 patients were included; 29 patients underwent RVOT stent implantation, and 58 patients underwent MBTTS, median age of RVOT stent group of 29 (1-220) months, and MBTTS group of 25,5 (6-227) months, ( $p=0,739$ ). Initial clinical outcome of MACE in RVOT stent vs MBTTS group was not different, rehospitalisation (1 (3,4%) vs 0 (0%),  $p=0,333$ ), re-intervention (3(10,3%) vs 6 (10,3%),  $p=1,000$ ), and 30-day mortality (3(10,3%) vs 2 (3,4%),  $p=0,340$ ). Achieved oxygen saturation target was in RVOT stent vs MBTTS was (93,1% vs 96,5 %,  $p=0,290$ ). ICU length of stay (LOS) in RVOT stent group vs MBTTS was 2 (0-43 days) vs 3,5 (2-9 days),  $p < 0,001$ , total hospital LOS was (6,5 (3-41 days) vs 7(4-24 days),  $p=0,048$ ) was different significantly.

Conclusion: Initial clinical outcome in paediatric patients with RVOT obstruction with shunt who underwent RVOT stent or MBTTS was not different in MACE, achievement of oxygen saturation target, but significantly different in ICU LOS, and total hospital LOS