

## Perbandingan hasil dan biaya penutupan defek septum ventrikel perimembran secara transkateter dan pembedahan = Comparison of results and cost of transcatheter and surgical closure of perimembran ventricular septal defect

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### Abstrak

Latar Belakang. Terapi baku emas dalam penutupan defek septum ventrikel (DSV) adalah pembedahan. Prosedur pembedahan mempunyai morbiditas yang terkait dengan torakotomi, pintasan jantung paru, komplikasi prosedur, jaringan parut bekas operasi, dan trauma psikologis. Oleh karena itu, timbul usaha pendekatan transkateter untuk menutup DSV yang bersifat relatif kurang invasif.

Tujuan. Mengetahui perbandingan hasil penutupan DSV perimembran, komplikasi prosedur, lama rawat di rumah sakit, dan total biaya prosedur antara prosedur transkateter dengan prosedur pembedahan.

Metode. Penelitian retrospektif analitik dengan data berupa rekam medis pasien anak dengan DSV perimembran yang datang ke Pelayanan Jantung Terpadu Rumah Sakit dr. Cipto Mangunkusumo dan dilakukan penutupan defek dengan salah satu prosedur dalam periode Januari 2010-Desember 2013.

Hasil. Sebanyak 69 kasus anak dengan DSV perimembran masuk dalam penelitian, terdiri dari 39 kasus dengan prosedur pembedahan dan 30 kasus dengan prosedur transkateter. Prosedur pembedahan dan prosedur transkateter mempunyai tingkat keberhasilan yang serupa (89,7% vs 96,7%,  $p=0,271$ ). Prosedur pembedahan mempunyai komplikasi yang lebih banyak dibandingkan prosedur transkateter (46,7% vs 7,7%,  $p < 0,001$ ). Prosedur pembedahan juga mempunyai lama rawat di rumah sakit yang lebih panjang dibandingkan prosedur transkateter (8 hari vs 3 hari,  $p < 0,0001$ ), dan semua prosedur pembedahan membutuhkan perawatan di ruang rawat intensif. Tidak ada perbedaan total biaya antara prosedur transkateter dengan prosedur pembedahan (Rp. 55.032.636 vs Rp. 58.593.320  $p = 0,923$ ).

Simpulan. Prosedur penutupan DSV perimembran secara transkateter mempunyai efektivitas dan biaya yang sama dengan prosedur pembedahan dan mempunyai komplikasi yang lebih sedikit serta lama rawat di rumah sakit yang lebih pendek.

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Background. Surgery has become standard therapy for ventricular septal defect (VSD) closure, but it has significant morbidity related to sternotomy, cardiopulmonary bypass, complication, residual scar, and trauma. Non-surgical and less invasive approaches with transcatheter device were developed to occlude VSD.

Objectives. To compare efficacy, complication, length of hospital stay, and total cost of perimembran VSD closure procedure between transcatheter closure and surgery.

Methods. A retrospective analysis was performed on children with perimembran VSD admitted to Cardiology Center of Cipto Mangunkusumo Hospital from January 2010-December 2031. The patients received transcatheter closure or surgical closure. Data were obtained from medical record.

Results. A total of 69 perimembran VSD cases were included in study, consisted of 39 cases underwent transcatheter closure and 30 cases underwent surgical closure. The efficacy of both procedur were not statistically different (89.7% vs 96.7%,  $p=0.271$ ). However, surgery procedure had more complication than

transcatheter closure (46.7% vs 7.7%,  $p < 0.001$ ). Hospital stay were also significantly longer for surgery procedure than transcatheter closure (8 days vs 3 days,  $p < 0.0001$ ), and all surgical subjects requiring intensive care. Transcatheter closure had median total cost Rp. 55.032.636 as compared with Rp. 58.593.320 for surgery procedure ( $p = 0.923$ ).

Conclusion. Perimembran VSD transcatheter closure had similar efficacy and costs with surgical closure. Complication rate was lower, and the length of hospital stay was shorter.