

# Perbandingan Primary Patency Rate Pasien Fistula Arteriovenosa (FAV) dengan Dilatasi Balloon 1,5x Ukuran Normal Vena Pra Anastomosis dan Pasien FAV Tanpa Dilatasi Balloon = Comparison of the Primary Patency Rate in Patients with Arteriovenous Fistula (AVF) With Balloon Dilatation 1,5x the Normal Size of the Pre-Anastomotic Vein to AVF Without Balloon Dilatation

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## Abstrak

Latar Belakang: Penyakit Ginjal Kronik (PGK) dan Penyakit Ginjal Tahap Akhir (PGTA) merupakan penyebab utama morbiditas dan mortalitas pada 10% populasi dunia penderita PGK. Terapi yang tersering dipilih adalah hemodialisis dengan pembuatan fistula arteriovenosa (FAV). Akan tetapi, angka kegagalan FAV relatif tinggi akibat feeding artery dan draining vein inadekuat. Teknik dilatasi angioplasty balon (PBA) merupakan salah satu cara mengatasi kegagalan FAV. Penelitian untuk mengetahui lama ketahanan / patency rate dengan dan tanpa PBA belum banyak dilakukan.

Tujuan: Menganalisis perbandingan patency rate dan jumlah patency failure pada pasien FAV dengan dan tanpa PBA.

Metode: Desain penelitian adalah survival analysis pada kohort prospektif, dilakukan di RSUPN Cipto Mangunkusumo, RSUPN Fatmawati, dan RSUD Kabupaten Tangerang. Penelitian dilaksanakan pada bulan Januari 2020 – Maret 2022.

Hasil: Total subyek 60 orang, sebanyak 29 subyek dengan PBA, 31 tanpa PBA. Terdapat perbedaan signifikan antara kedua kelompok dari segi diameter vena dan volume flow vena pasca operasi ( $p < 0,01$ ). Uji log-rank menunjukkan ada beda signifikan patency failure dengan nilai  $p = 0,028$ , pada kelompok tanpa PBA (35,5%; rerata patency rate 56,3 minggu) dibandingkan dengan kelompok dengan PBA (10,3%; rerata patency rate 104,4 minggu). Median durasi menunjukkan sebanyak 50% dari kelompok tanpa PBA mengalami patency failure pada minggu ke-59,3, sedangkan hingga akhir pengamatan pada kelompok dengan PBA yang mengalami patency failure tidak sampai 50%.

Simpulan: Penggunaan teknik PBA dapat menurunkan kejadian patency failure dan mempertahankan patensi dalam jangka waktu lebih lama pada pasien dengan FAV.

.....Background: Chronic kidney disease (CKD) and end stage renal disease (ESRD) are the main causes of morbidity and mortality in 10% of the world's population with CKD. The most commonly chosen therapy is hemodialysis with the creation of an arteriovenous fistula (AVF). However, the FAV failure rate is relatively high due to inadequate feeding artery and draining vein. Primary balloon angioplasty (PBA) dilatation technique is a way to mitigate FAV failure. There have not been many studies to determine the patency rate with and without PBA.

Objective: To analyze the comparison of the patency rate and the number of patency failures in AVF patients with and without PBA.

Methods: The study design was a survival analysis in a prospective cohort, conducted at Cipto Mangunkusumo General Hospital, Fatmawati Hospital, and Tangerang District Hospital. The research was conducted in January 2020 – March 2022.

Results: There were 60 subject as a total, 29 subjects with, 31 without PBA. There were a significant difference between the two groups in terms of venous diameter and postoperative venous flow volume ( $p < 0.01$ ). The log-rank test showed a significant difference in patency failure in the group without PBA (35.5%; mean patency rate 56.3 weeks) compared to the group with PBA (10.3%; mean patency rate 104.4 week),  $p$ -value=0.028,. The median duration showed that 50% of the group without PBA experienced patency failure at week 59.3, while until the end of the observation, the group with PBA experienced patency failure of less than 50%.

Conclusion: The use of PBA technique can reduce the incidence of patency failure and maintain patency in the longer term in patients with AVF.