

**FAKULTAS KEDOKTERAN**

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**PREDIKTOR KEGAGALAN MATURASI PASCAOPERASI  
ARTERIOVENOUS SHUNT PADA PASIEN PENYAKIT GINJAL KRONIS  
DI RSUP PERSAHABATAN PADA TAHUN 2022-2024**

### **ABSTRAK**

**Pendahuluan:** Akses vaskular yang optimal merupakan elemen kunci dalam keberhasilan terapi hemodialisis, karena berpengaruh langsung terhadap morbiditas dan mortalitas pasien. Meskipun patensi primer *AV Shunt* dilaporkan mencapai 87,7% pada 8 bulan pascaoperasi, sekitar 25% pasien masih mengalami kegagalan maturasi, yang dapat mengganggu adekuasi hemodialisis. Identifikasi faktor risiko kegagalan maturasi *AV Shunt* hingga kini masih menunjukkan hasil yang bervariasi dan belum ada prediktor yang pasti untuk mendeteksi kegagalan maturasi pascaoperasi. Penelitian ini bertujuan mengevaluasi faktor risiko praoperatif, intraoperatif, dan pascaoperatif yang berpotensi memengaruhi kegagalan maturasi *AV Shunt*, sehingga dapat mengidentifikasi prediktor kegagalan maturasi setelah prosedur *AV Shunt*. **Metode :** Penelitian ini merupakan studi kohort retrospektif analitik yang melibatkan pasien yang menjalani prosedur arteriovenous shunt di RSUP Persahabatan selama periode 2022–2024. Titik akhir yang dievaluasi adalah terdapatnya faktor yang berperan sebagai prediktor kegagalan maturasi pasca operasi *AV Shunt*. Data karakteristik pasien dikumpulkan meliputi usia, jenis kelamin, indeks massa tubuh, riwayat hipertensi, diabetes melitus, dislipidemia, lokasi anastomosis, serta teknik anastomosis. **Hasil:** Dari total 120 pasien yang masuk dalam kriteria inklusi dan eksklusi, kegagalan maturasi pascaoperasi *AV Shunt* muncul pada 50 pasien (42%) dari total keseluruhan pasien. Hasil analisis univariat regresi logistik menunjukkan jenis kelamin ( $p = 0,046$ ) dan riwayat diabetes melitus ( $0,027$ ) yang nilainya bermakna. Pada penelitian ini didapatkan bahwa jenis kelamin perempuan meningkatkan risiko 2,12 kali mengalami kegagalan maturasi pascaoperasi *AV Shunt* ( $OR = 2.121$ ; 95%  $CI: 1.013 - 4.441$ ) dan pasien yang memiliki riwayat diabetes tidak terkontrol meningkatkan risiko 4 kali mengalami kegagalan maturasi pascaoperasi *AV Shunt* ( $OR = 4.083$ ;  $CI: 1.241-13.431$ ). **Kesimpulan:** Karakteristik praoperasi yaitu Jenis kelamin dan diabetes melitus merupakan prediktor terjadinya kegagalan maturasi pascaoperasi *AV Shunt*.

**Kata Kunci :** Anastomosis, Arteriovenous Shunt, Diabetes Melitus, Hemodialisis, Jenis Kelamin, Kegagalan Maturasi, Prediktor, Terapi Pengganti Ginjal.

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**PREDICTORS OF POSTOPERATIVE MATURATION FAILURE OF ARTERIOVENOUS SHUNT IN PATIENTS WITH CHRONIC KIDNEY DISEASE AT RSUP PERSAHABATAN HOSPITAL IN 2022-2024**

### **ABSTRACT**

**Introduction:** Optimal vascular access is a key element in the success of hemodialysis therapy, as it has a direct effect on patient morbidity and mortality. Although the primary patency of the *AV Shunt* was reported to reach 87.7% at 8 months postoperatively, approximately 25% of patients still experienced maturation failure, which may compromise the adequacy of hemodialysis. The identification of risk factors for *AV Shunt* maturation failure has yielded mixed results, and no truly definitive predictors have been identified to detect postoperative maturation failure. This study aims to evaluate preoperative and postoperative risk factors that may affect *AV Shunt* maturation failure, thereby identifying predictors of maturation failure after *AV Shunt* procedures. **Methods:** This study is an analytical, retrospective cohort study involving patients who underwent arteriovenous shunt procedures at Persahabatan Hospital during 2022–2024. The endpoint evaluated was the presence of factors predictive of postoperative *AV Shunt* maturation failure. Patient characteristics data were collected, including age, gender, body mass index, history of hypertension, diabetes mellitus, dyslipidemia, anastomosis location, and anastomosis techniques. **Results:** Of the total of 120 patients who met the inclusion and exclusion criteria, post-*AV Shunt* maturation failure occurred in 50 patients (42%) of the total patients. The results of univariate logistic regression analysis showed that gender ( $p = 0.046$ ) and history of diabetes mellitus ( $p = 0.027$ ) were beneficial. While these factors appeared significant, other potential confounders such as age, vascular anatomy, or medication use were not analyzed and could influence outcomes. In this study, it was found that female gender increased the risk of post-*AV Shunt* maturation failure by 2.12 times (OR = 2.121; 95% CI: 1.013 – 4.441), and patients who had a history of diabetes did not increase the risk of post-*AV Shunt* maturation failure by 4 times (OR = 4.083; CI: 1.241-13.431). **Conclusion:** Preoperative characteristics, namely gender and diabetes mellitus, are predictors of post-*AV Shunt* maturation failure, but further research should explore additional factors that affect outcomes.

**Keywords :** Anastomosis, Arteriovenous Shunt, Diabetes Mellitus, Gender, Hemodialysis, Maturation Failure, Predictors, Renal Replacement Therapy.