

## 동정맥루 기능부전의 치료: 내혈관적 및 수술적 접근

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### **Management of Vascular Access Malfunction: Endovascular vs. Surgical Approach**

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Many patients who are not candidates for renal transplantation are dependent on hemodialysis for their lifetime. This situation results in the long-term need for and use of dialysis access. Therefore, the preservation of patent, well-functioning dialysis fistulas is one of the most important difficult clinical issues in the long-term treatment of patients undergoing dialysis. However, as many as 25% of hospital admissions in the dialysis population have been attributed to vascular access problems, including fistula malfunction and thrombosis. Less than 15% of dialysis fistulas remain patent and can function without problems during the entire period of a patient's dependence on hemodialysis.

For prosthetic arteriovenous grafts (AVGs), graft failure and eventual occlusion occur most commonly as a result of the progressive narrowing of the venous anastomosis; for native arteriovenous fistulas (AVFs), failure occurs most commonly as a result of the narrowing of the outflow vein such as juxta-anastomotic venous segment in radiocephalic AVFs and cephalic arch in brachiocephalic AVFs. The primary underlying pathophysiologic mechanism is intimal hyperplasia at the anastomotic or draining venous site.

Historically, malfunction of AVFs or AVGs were treated by using surgical revision. Recently, with the development of endovascular techniques and devices, percutaneous techniques such as balloon angioplasty and stenting has been considered as a primary option for vascular access malfunction and allowed the treatment of stenosis and fistula thrombosis without surgery. However, recurrent stenosis after percutaneous technique has been a Achilles heel of these technique. In this session, the treatment methods, clinical results including patency, and recent development of endovascular techniques are reviewed.