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the Stent Graft Viabahn Has the Better Patency Rate Than by Arteriovenous Graft Replacement (Comparison of Two Treatments for Frequent Stenosis Near the Venous Side Anastomosis after Operation)

JUNICHI IIDA
Department of Surgery, Vascular Access Center, Tomakomai Nissho Hospital, Japan

Objectives : The structure of the stent graft VIABAHN® is a covered stent with an e-PTFE membrane on the outer layer of the nitinol stent. In 2019, in Japan, it was approved for use in the treatment of venous side stenosis after arteriovenous graft (AVG). The converted price of polyurethane and e-PTFE artificial vessels is about 1350000 Won, while the converted price of VIABAHN® is about 2620000 Won (when Yen converted to Won). In some Southeast Asian countries, even PTA treatments are not approved.
Methods : We examined not only the effectiveness of PTA for stenosis, but also its cost-effectiveness over the medium term. In Japan, 1) artificial vessel replacement or 2) VIABAHN® implantation is the approved treatment for frequent PTA of venous side stenosis after AVG implantation. We have used VIABAHN® in 24 cases (May 2021 to January 2024). In these, we chose 21 cases were group A. We compared to group B: 9 cases underwent AVGs lengthening for venous side stenosis after forearm loop AVG implantation.(Fig.1)
Results : The mean procedure time were 44 ± 10.0 minutes in Group A and 93.6 ± 16.9 minutes in Group B, more than twice as long. In Group A, all cases were treated on an outpatient basis and did not require analgesics because they experienced only mild discomfort postoperatively.Group B, required inpatient treatment for 4 to 21 days and medication to 10th postoperative days. (Table 1)
Conclusions : The expensive and effective treatment methods must be examined based on the comprehensive cost-effectiveness evaluation. In AVG replacement is performed while clamping the autologous vein, which is likely to cause stenosis after that. On the other hand, stent grafting does not require the use of a clamp. In particular, the stent grafts used for 5mm diameter AVGs are 6mm or 7mm in diameter, so turbulence after use is minimized.

Fig.01.jpg

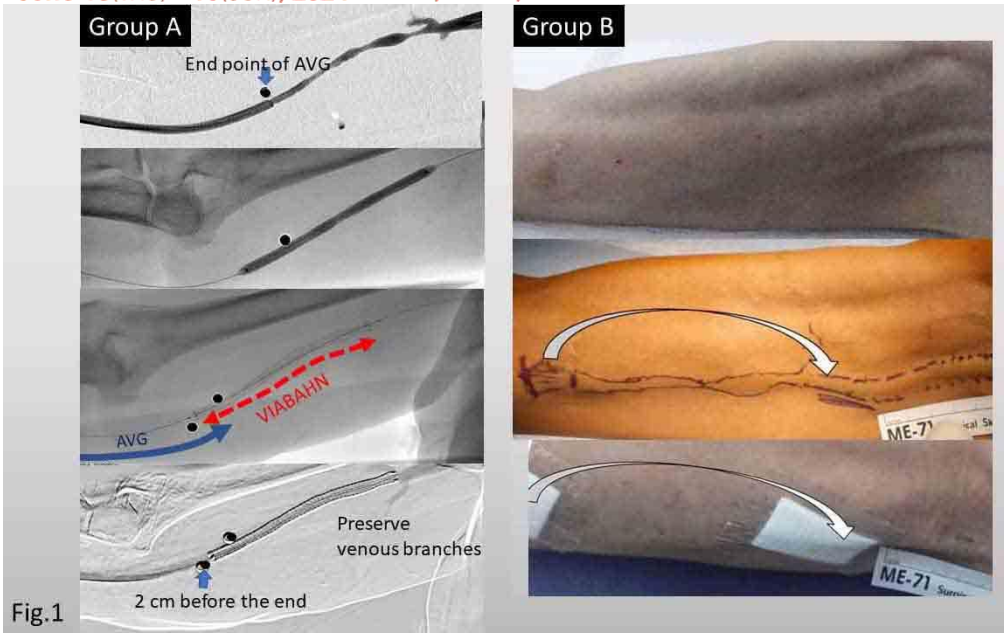

Fig.1

Fig.01.jpg

Two treatments for frequent AVGs venous side stenosis

	VIABAHN® Group A (21cases)	AVG bypass Group B (9cases)
Required time	44.0 min ± 10.0	93.6 min ± 16.9
Pain relief	Unnecessary (only discomfort)	Oral analgesics (4~10 days)
Days (spent in hospital)	0 (No admission)	4~21 days

Table.1