

Superficialisation de la veine basilique : Je le fais en 1 temps

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Case Report

Subfascial Hematoma Progressed to Arm Compartment Syndrome due to a Nontransposed Brachiobasilic Fistula

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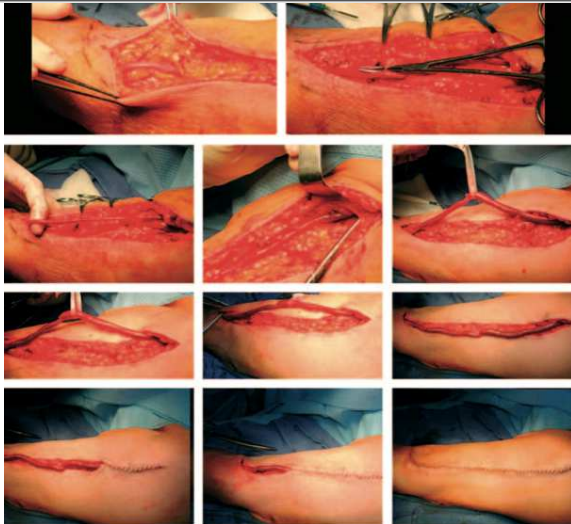
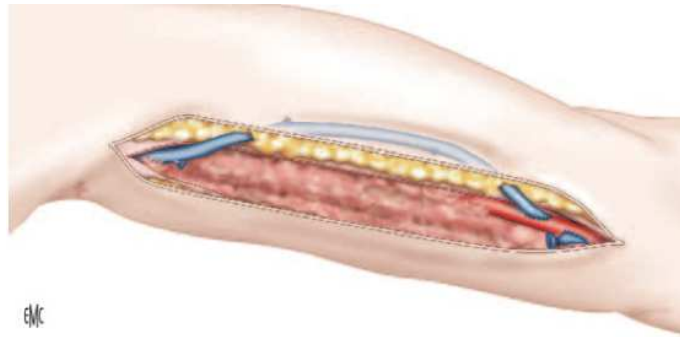
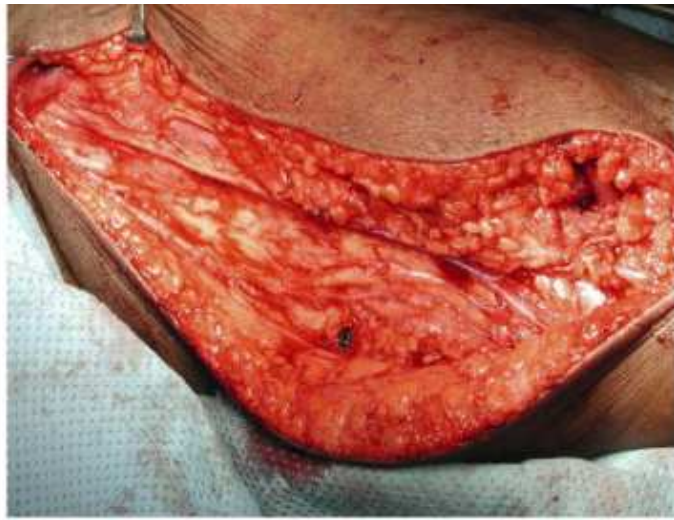
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Vascular access–associated compartment syndrome is reported rarely in hemodialysis patients. A 62-year-old female hemodialysis patient experienced left-arm compartment syndrome caused by a nontransposed brachiobasilic arteriovenous fistula. A subfascial hematoma that developed because of perforation of the posterior wall of the basilic vein was not detected by Doppler ultrasound initially, and subsequent heparinized hemodialysis caused progression of the hematoma. Neuromuscular sequelae were prevented by performing an emergent fasciotomy, and transposition of the arterialized basilic vein was performed later to prevent similar complications in the future. This case report shows the risk for the occurrence of such a devastating complication if the nontransposed brachiobasilic fistula is used for hemodialysis vascular access.



Les fistules basiliques doivent être superficielles avant toute ponction



Superficialisation : quelle technique ?

Brachiobasilic Fistula Formation — Single versus Two Stage Procedure

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WHAT THIS PAPER ADDS

This is an original article comparing one and two stage methods of brachiobasilic fistula formation. We identified no difference between the two methods in terms of patency. Fistulae created prior to starting dialysis had a significantly longer survival compared to those created in patients who were already undergoing dialysis treatment at the time of creation.

Background: Brachial Basilic (BB) fistulae are a form of vascular access for patients requiring dialysis. They are indicated when the cephalic vein is unsuitable for use. This fistula can be created with either a single stage or a two stage procedure. We aimed to compare the two techniques.

Methods: 73 BB fistulae (29 single and 44 two-stage) were created over a 5-year period (2003–2008). Data including sex, age, dialysis and diabetic status was collected from the case notes. Patency and time to maturity data was collected prospectively on an electronic database within the dialysis unit.

Results: There was no significant difference in functional patency rates between the two methods. A significant difference was identified between patients who had their fistula created prior to starting dialysis compared to those who had their fistula created after starting dialysis, in both initial patency rate ($p = 0.017$) and long term survival of the fistulae ($p = 0.002$).

Conclusion: We identified no significant difference of patency between the two methods. This implies that a single stage procedure has benefits, by offering a quicker form of vascular access. Patients who had their fistulae created prior to dialysis had improved patency rates.

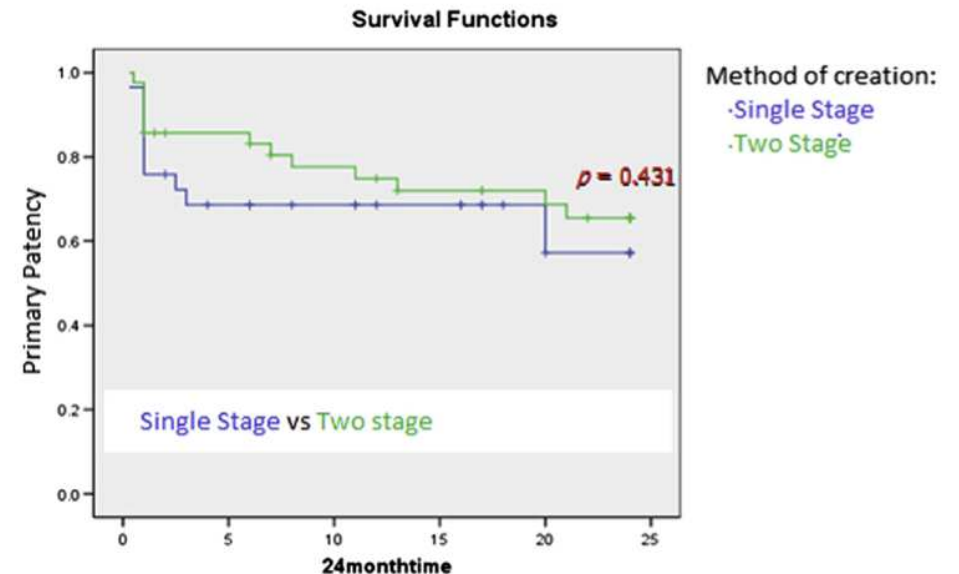


Figure 1. Primary patency rates comparing 1 stage vs 2 stage BB fistulae ($p = 0.431$).

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Superficialisation : 1 ou 2 temps ?

- + Plus rapide : une seule intervention
 - + Utilisation plus précoce
 - + Moindre durée de dialyse par cathéter central
-
- Absence de maturation et d'artérialisation avant transposition

A comparison between one- and two-stage brachiobasilar arteriovenous fistulas

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Objective: Brachiobasilar arteriovenous fistulas (BBAVF) can be performed in one or two stages. We compared primary failure rates, as well as primary and secondary patency rates of one- and two-stage BBAVF at two institutions.

Methods: Patients undergoing one- and two-stage BBAVF at two institutions were compared retrospectively with respect to age, sex, body mass index, use of preoperative duplex ultrasound, diabetes, hypertension, and cause of end-stage renal disease. Categorical variables were compared using

Wilcoxon rank-sum test was used to compare continuous variables. Median survival analysis and the Cox proportional hazards model with

Results: Ninety patients (60 one-stage and 30 two-stage) were identified between the first and second stage was 11.2 weeks. Although

(one-stage, 22.9% vs two-stage, 9.1%; $P = .20$), the two-stage BBAVF

patency at 1 year at 88% vs 61% ($P = .047$) (hazard ratio, 0.2 (95% CI

for one-stage BBAVF markedly decreased to 34% at 2 years compared with

Median primary functional patency for one-stage BBAVF was 31 weeks

(IQR, 29–131 weeks) for the two-stage procedure, respectively ($P = .01$

one- and two-stage procedures were 41% and 94%, respectively ($P = .0$

Conclusions: Primary and secondary patency at 1 and 2 years as well as

BBAVF when compared with the one-stage procedure. Lower primary

procedure approached, but did not reach statistical significance. While

technical aspects of the procedure may play a role. (J Vasc Surg 2011;

A comparison of the outcomes of one-stage and two-stage brachiobasilar arteriovenous fistulas

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Objective: The brachiobasilar arteriovenous fistula (BBAVF) can be formed in one or two stages. This study examined the failure rates and functional patencies of one-stage vs two-stage brachiobasilar transposition fistulas to compare the two surgical techniques.

Methods: We retrospectively identified all the patients who underwent BBAVF access surgery at King's College Hospital between January 1, 2009, and December 31, 2011 (3 years). Patients were divided into two groups according to one-stage or two-stage procedure. All patients were seen in the access clinic 4 to 6 weeks postoperatively, and their fistulas were scanned (duplex). The surveillance of fistulas consists of duplex scans every 6 months to assess volume flow.

Results: During the study interval, 149 brachiobasilar transpositions (65 one-stage and 84 two-stage) were performed in 141 patients. Patients undergoing the two-stage procedure had a smaller mean preoperative vein diameter (4.0 ± 1.1 vs 3.6 ± 1.3 mm; $P = .041$) and tended to be older (58 ± 15 vs 63 ± 15 years; $P = .062$). Mean overall follow-up was

589 ± 333 days. There was no difference in primary failure between the two groups (45% vs 42%; $P = .718$). At 1 year, the two-stage BBAVFs had significantly better primary (71% vs 87%; $P = .034$), assisted primary (53% vs 75%; $P = .034$), and secondary functional (79% vs 95%; $P = .026$) patencies. The same applied to 2-year primary (53% vs 75%; $P = .034$), assisted primary (57% vs 77%; $P = .017$), and secondary functional (57% vs 77%; $P = .026$) patencies. Multivariate Cox regression showed that the one-stage procedure was 3.2 times more likely to fail ($P = .028$). Men were 2.7 times more likely to lose their access ($P = .054$).

Conclusions: This study describes a large series of BBAVFs and makes an extensive comparison between the one-stage and two-stage operations. Significantly improved overall functional patency is demonstrated for the two-stage operation. (J Vasc Surg 2013;58:1300–4.)

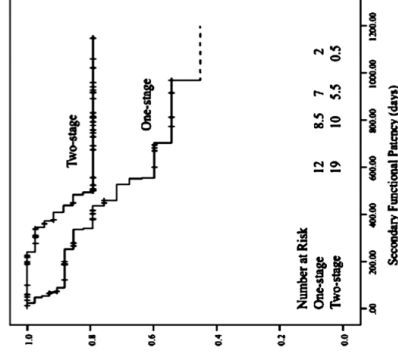
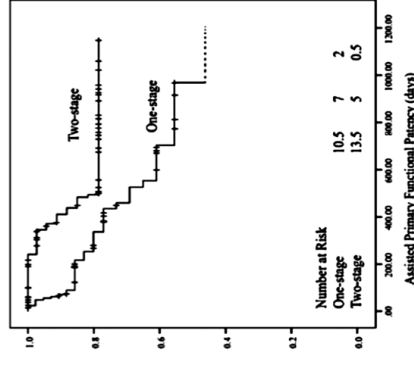
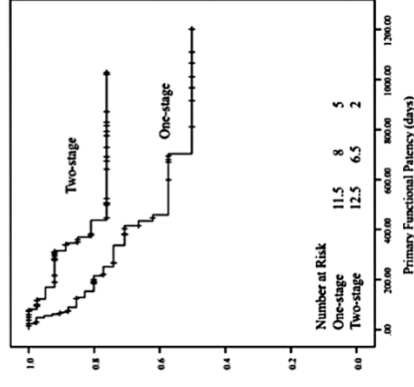


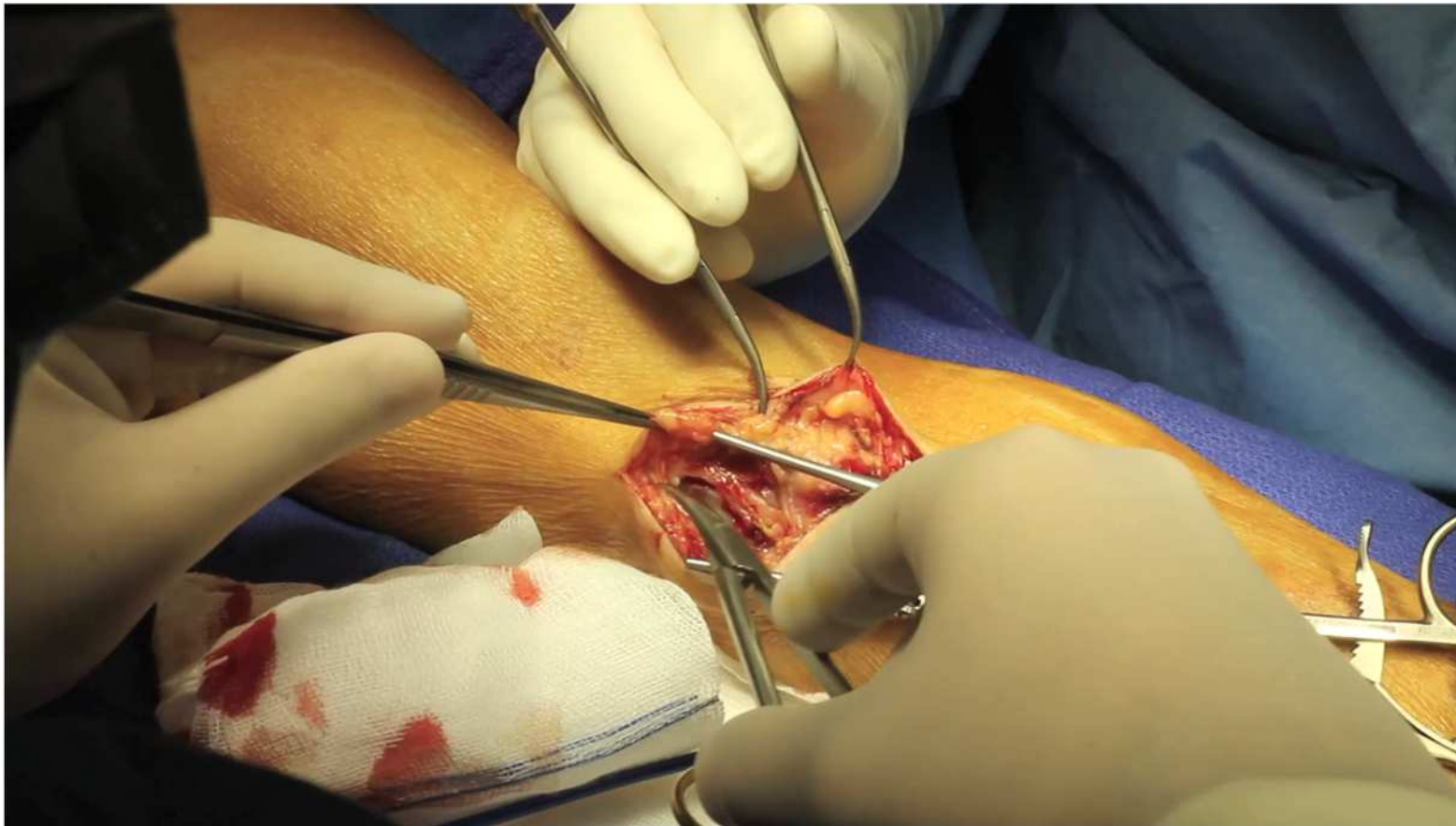
Table III. Patency rates at 1 and 2 years

Internal	Functional patency	One-stage, %	Two-stage, %	P
1 year	Primary	71	87	.034
	Assisted	77	95	.017
2 years	Secondary	79	95	.026
	Primary	53	75	.034
	Assisted	57	77	.017
	Secondary	57	77	.026

- + Mobilisation d'une large veine artérialisée
 - + Veine moins susceptible à la torsion et à la dévascularisation au cours de la mobilisation
 - + Correction simple des éventuelles sténoses post-anastomotiques
 - + Évite une intervention itérative en cas de thrombose précoce
-
- Nécessite deux hospitalisations et deux interventions
 - Allongement du délai avant première ponction

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La qualité de la veine est influencée par l'historique des accès d'hémodialyse

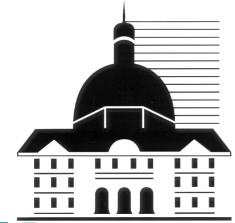


La superficialisation en un temps est possible sur veine maturée par un (des) accès préalable(s)

Je superficialise en un temps...

Mon choix, en pratique...

Je superficialise en un temps... dans les seuls cas où la veine basilique se trouve artérialisée par une (des) création(s) distale(s) antérieure(s)



Superficialisation de la veine basilique : Je le fais **parfois** en 1 temps

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