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**Outcomes of cold-stored venous allograft for below-knee bypasses in patients with critical limb ischemia.**

[Ziza V](http://www.ncbi.nlm.nih.gov/pubmed/?term=Ziza%20V%5BAuthor%5D&cauthor=true&cauthor_uid=26141692)1, [Canaud L](http://www.ncbi.nlm.nih.gov/pubmed/?term=Canaud%20L%5BAuthor%5D&cauthor=true&cauthor_uid=26141692)2, [Gandet T](http://www.ncbi.nlm.nih.gov/pubmed/?term=Gandet%20T%5BAuthor%5D&cauthor=true&cauthor_uid=26141692)3, [Molinari N](http://www.ncbi.nlm.nih.gov/pubmed/?term=Molinari%20N%5BAuthor%5D&cauthor=true&cauthor_uid=26141692)4, [Alonso W](http://www.ncbi.nlm.nih.gov/pubmed/?term=Alonso%20W%5BAuthor%5D&cauthor=true&cauthor_uid=26141692)3, [Chastan R](http://www.ncbi.nlm.nih.gov/pubmed/?term=Chastan%20R%5BAuthor%5D&cauthor=true&cauthor_uid=26141692)3, [Branchereau P](http://www.ncbi.nlm.nih.gov/pubmed/?term=Branchereau%20P%5BAuthor%5D&cauthor=true&cauthor_uid=26141692)3, [Picard E](http://www.ncbi.nlm.nih.gov/pubmed/?term=Picard%20E%5BAuthor%5D&cauthor=true&cauthor_uid=26141692)3.

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**Abstract**

**OBJECTIVE:**

Critical limb ischemia (CLI), the most advanced form of peripheral arterial disease, is associated with strikingly high morbidity and mortality rates. Autogenous single-segment great saphenous vein (GSV) remains the optimal conduit for infrainguinal revascularization. Unfortunately, GSV is unavailable in up to 20% of patients. There is no consensus about the alternative graft that should be used for infragenicular bypass grafting when the GSV is unavailable. Currently, there are no outcome data for cold-stored venous allograft use in regard to recent safety and efficacy objective performance goals described by the Society for Vascular Surgery.

**METHODS:**

This is a retrospective analysis of 118 infragenicular revascularizations performed for CLI with cold-stored venous allografts obtained from varicose vein stripping surgery in a single institution from November 2002 to August 2013.

**RESULTS:**

Mean age (± standard deviation) was 75 ± 12 years (male, 76%; diabetes, 73%; dialysis, 16%), and 38% (n = 45) had a history of failed ipsilateral revascularization. None had suitable autogenous conduit for even composite vein bypass. The distal anastomosis was performed to an infrapopliteal artery in 85 cases (72%). At 30 days, perioperative death rate was 6.8%, major adverse cardiovascular event rate was 7.6%, and major adverse limb event rate was 11.9%. Mean follow-up was 34 ± 29 months (range, 1-113 months). At 1 year, freedom from major adverse limb event or perioperative death, limb salvage, survival, amputation-free survival, and secondary patency rates were, respectively, 64.9%, 82.5%, 85.4%, 73.3%, and 58.3%. Ejection fraction <45% and dialysis were the most significant factors predicting failure of revascularization.

**CONCLUSIONS:**

Cold-stored venous allografts may be used for performing infragenicular revascularization for CLI with acceptable safety and efficacy results despite poor long-term patency. Their level of performance remains inferior to autologous vein sources but seems comparable to alternative allografts or prosthetic conduit. Their availability is a major advantage compared with other biologic alternative sources.

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The immediate results are all satisfying, whatever the strategy or the technique.  
The question is evolution over time.  
Recurrences: some are due to non-occluded or circumvented leak points (including pelvic points), others to veins necessary for tissue drainage developed under the effect of residual pressure to substitute for the destroyed veins and others to the “natural” destruction of other venous valves over time.  
Moreover, the interest of preserving the saphenous trunks, for possible future bypasses, including coronary arteries is undisputable.  
There are conservative methods as CHIVA that preserve the veins even if refluxing, stop the escape point, and ease the drainage of the tissues. They are proven better than stripping, in terms of results and recurrences, whereas endo-venous methods give as many recurrences as stripping.  
I have at your disposal the literature which furnishes proof of these assertions.( I guess you already know them).

What would say the patient if we give him the choice?

les ulceres sont définis comme des plaies ouvertes qui ne guerissent pas dans les temps physiologiques.

Les causes étiologiques sont nombreuses:

Ischémie, hyperpression veineuse, fragilté de la peau, points d'appuy prolongés, microangipathologie, maladies du sang, depression immunitaire.

Infection is most of the time secondaty ( surinfection) et retarde encore plus le temps de guerison.

Combinés au traitements etiologiques , l'infection locale doit être traitée.

Mon experience depuis plus de 20 ans, utilisant à cette fin un mélange inerte à base de sucre en proportions particulières m'a convaincu de l'interêt non seulement économique mais surtout médical. Il s'agit d'application de ce mélange 1 fois tous le 5 ou 7 jours , sans débridement, mais un simple lavage à l'eau, et sans antibiotiques locaux ni par voie générale. Une étude est en cours et va être publiée montrant une complete ( 100%) stérislisation des ulcères dès les premières applicaions , pour toutes bacteries , y compris les plus résistantes comme le piocyanique. Cliniquement et dès le premier pansement, l'ulcère ne sent plus mauvais et les tissus necrosés sont simplement évacuées par un lavage doux. l'absence de débridement evite toute douleur et laisse en place les cellules de régénération. Tout cela que l'ulcère soit sec ou humide.

Ulcers are defined as open wounds that do not heal in physiological times.  
The etiological causes are various::  
 Ischemia, venous hyperpressure, fragile skin, prolonged resting points, microangipathy, blood disorders, immune depression etc…  
Infection is most of the time secondary (superinfection) and delays even more healing time.

Combined with etiological treatments, local infection must be treated.

My experience for more than 20 years, using an inert mixture of sugar in particular proportions convinced me of not only economic but above all medical interest. It is applied this mixture once every 5 or 7 days, without debridement, but a simple washing with water, and without antibiotics local or general way. A study is underway and will be published showing a complete (100%) sterilization of ulcers from the first applications, for all bacteria, including the most resistant ones like Pseudomonas aeruginosa. . Clinically and from the first dressing, the ulcer no longer smells bad and the necrotic tissues are simply evacuated by a gentle washing. The absence of debridement avoids any pain and leaves the cells of regeneration in place. All that whatever the ulcer : dry or wet. And any etiology.

Best wishes

Claude