

Vegetal solution for microsurgical training in Cambodia

When the vegetal makes possible microsurgery training in Cambodia, without animal suffering and pain

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Today it seems difficult in Europe to formalize a consensus between the "whole animal" and "without practical work", it seems essential to associate with specific educational objectives, multiple solutions, credible and sustainable in terms of resources allocated to build new teachings. If it is important to provide a systematic use of replacement in the development of new training programs, it is determined to take account of local conditions and socio-economic environment to sustain it. Thus in Cambodia, a local plant resources, free from health risks, and available at low cost, is a surprising but ultimately decisive substitute in the feasibility of a microsurgical education.

Background

The difficulty of having a dedicated and trained staff, sanitary pressure of local wildlife, the cost compromise the sustainability of a rodent breeding on European standards, even on a conventional status.

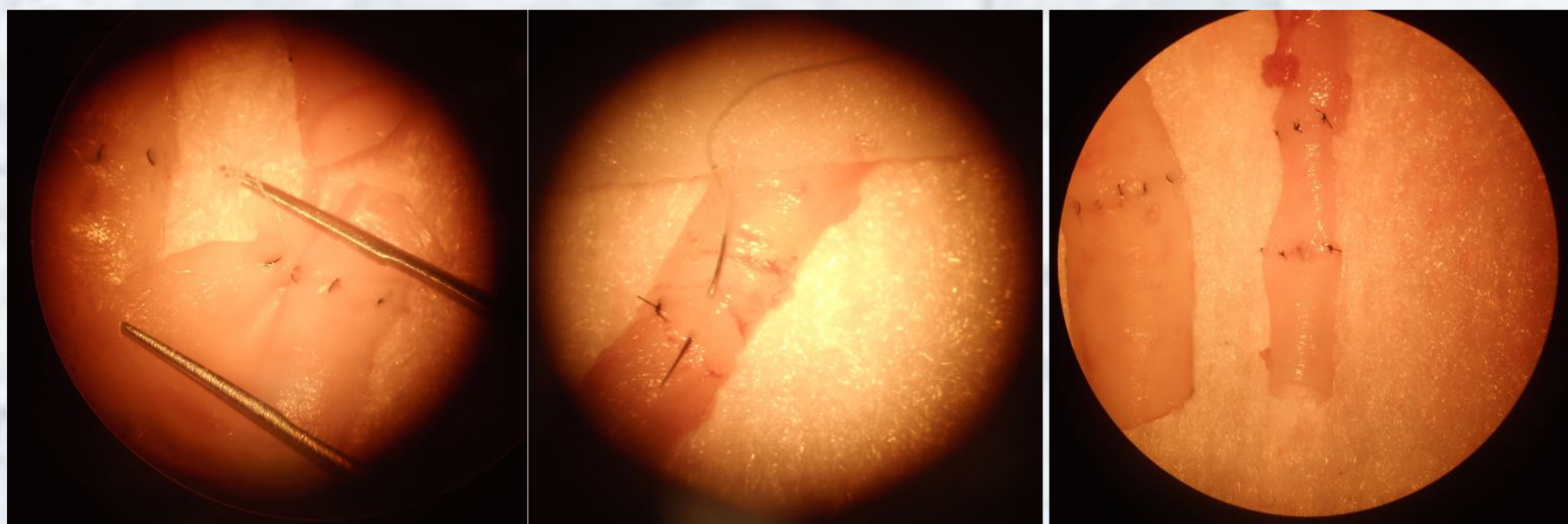
The need for skill maintenance for surgeons, combined with the establishment of a microsurgical teaching, were not enough to justify this option. If almost everything is available in the food markets -everything falls in food-, zoonotic health risks are incompatible with a reasonable use for healthcare personnel in contact with patients.



Specifications

If «Round the clock», (first described in 2008 by Pr. Chan WY), is usable, the isolated aorta, taken from death rat, and preserved after preparation, does not meet the local constraints, but helps define minimum criteria of an anastomosis support:

Soft, flexible tube of small caliber, allowing precise control of the result and ideally good repeatability for the desired educational goal.



Results

The living world offers many examples of this kind of tube, especially the vegetable world, with leaves and stems of all sizes.

A first study based on harvested plants in France and extensively tested in terms of storage available locally, conservation (over 18 month), texture, strength, deformability during end to end anastomosis suture, allowed to consider the use of local plants.



After testing various species, a plant called **Ktoeum** or "**Plante d'ail**", offers an interesting compromise, free from health risks, and available at low cost.

Discussion

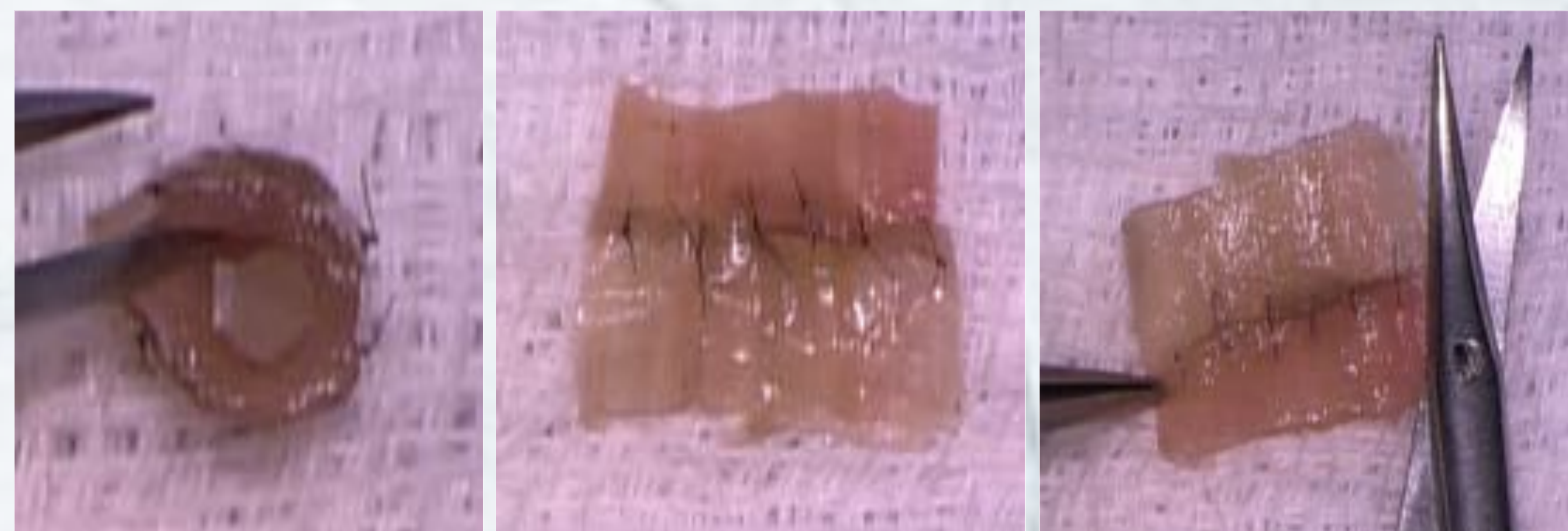
The vegetal tissue retains its cosmetic appearance and remains completely flexible after 12 month. The anastomosis is performed on the isolated segment, fixed on a wet compress.

The exercise can be carried out several times on the same medium and is controlled by sealing the serum instillation with a flexible catheter (yellow color).

The observation of each point and their distribution is facilitated. The longitudinal incision of the vegetal segment allows the trainee to appreciate the symmetry of its points and its possible errors: puncture the opposite wall, malposition.

The fragility of the vegetal tissue makes it more conducive to tearing when the point is too tight or

if the movement of the needle holder does not follow the curvature of the needle.



CON'S	PRO'S
More tearable	Cheap & ecological
More technically demanding	Easy to obtain
No coaptation effect between anastomosis ends	Safe sanitarly No zoonotic health risks

Conclusion

When a substitute is more technically requiring, you obtain a finer quality in gesture's acquisition. The educational goals are achieved then, even if all aspects of micro vascular surgery aren't there, like immediate or deferred thrombosis.

This vegetal substitute is a surprising but ultimately decisive substitute in the feasibility of a microsurgical training in Cambodia.