Vall d'Hebron
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UNIVERSITAT POLITÈCNICA DE CATALUNYA

Technology Offer
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Automatic device for suture in anastomosis surgery interventions

A new automatic, fast and biocompatible surgical manipulator device has been developed and patented. This new technology allows cross-cutting of tubular tissue using absorbable yarn and avoids the common complications of traditional anastomosis interventions. Partners to further develop the device and/or to establish commercial agreements along with technical cooperation are sought.

The Need

A common procedure in colon cancer is the union of the two extremes of intestine after removing a tumor. This procedure, called anastomosis, can be done either with manual suture or using a surgical stapler. The hand suture needs highly skilled surgeons and it is slow, significantly increasing the risk of infection. The metallic staples are not absorbed by the organism, creating a ring in the intestine with poor elasticity, which can create obstructions that remain forever.

The Solution

This new technology consists of a surgical manipulator device that cross-cuts the tubular tissue (usually the intestine) removing a piece of it and uniting again the resulting ends by sewing them with absorbable yarn, doing it fast, automatically and in a robust way, under supervision of the surgeon. Thus, reducing the risks associated to the surgery intervention. Its handling is similar to the existing stapling devices commonly used, therefore diminishing the training of the surgeons.

Innovative Aspects

✓ Fast sewing suture with yarn that can be absorbed by the tissues, thus keeping the affected zone elastic after the intervention., which will avoid obstruction problems and will also improve the regeneration of the tissues in the sewed area.

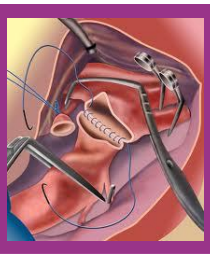
✓ The device will consist of a fixed part and a disposable one, which means that the total costs could be very similar to the current devices.

Stage of Development

A real size prototype device has been designed and built. A proof-of-concept test with pig intestine (very similar to human intestine) has been carried out, being evaluated as successful by the surgeons assessing the project. Additional development is required for reduction of external actuators in the prototype as well as additional tests (starting the legal roadmap to introduce it in the market).

Target Market

The target market is defined by replacing the use of stapling devices, currently used in almost all the anastomosis interventions for cancer of colon (the 3rd with more incidence worldwide, with more than 1.000.000 new cases per year).



Schematic representation of anastomosis intervention.

Prototype

IP rights

PCT application

Portfolio of technologies

www.vhir.org/innovacio

We are looking for…

Partners to establish co-development or licensing agreements in order to commercialize this technology.

Contact details

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