

High precision rectoscope

Rectoscope that by means of transillumination and by incorporating a radial light source allows the surgeon to measure the distal resection margin -a key point for a correct oncological surgery- with a degree of accuracy not yet achieved by any rectoscope available in the market.

Description and essential characteristics

The rectoscope includes a radial light source, gradually displaceable, that creates a beam of radial light in order to transilluminate both the rectoscope tubular body and the portion of the rectum in which it is inserted to allow firstly a precise observation inside the cavity and secondly, if it detects a foreign body like a tumour, which has to be surgically removed, it allows a precise determination of the distal resection margin -or exact distance from the tumour to the rectum cut-off point- to minimize the rectal portion removed.

The walls of the rectoscope must be made of a translucent material so that, when the radial means emit the light beam from inside the rectoscope, it crosses the walls of the rectoscope as well as rectum tissues, which also have by nature a translucent character.

The rectoscope has a stem. On one end of the stem an annular structure is placed; on its outer edge a plurality of light sources, preferably LED type, are arranged to emit the light beam. At the other end of the stem there is a compartment for the power supply housing as well as the point from which the movement of the stem's displacement inside the rectoscope is controlled.

Competitive advantages

The main advantages of the rectoscope are as follows:

- Allows the surgeon to optimize the observation of the rectal cavity and determine more precisely, from inside the abdominal cavity, the point where the resection of the rectum should be done, if necessary.
- This increased accuracy allows, in turn, a reduction of the distal resection margin. Thus shorter length of rectum is removed allowing better defecatory patient functionality and less risk of dehiscence.
- At the same time, a total elimination of tumour tissue is assured, minimizing the risk of spread of tumour tissue and, therefore, tumour recurrence or local repetition.

Type of collaboration sought

Cooperation is sought with any Party interested in partnering, licensing or investing in the technology, whether it is an investor to fund the project, a partner interested in getting involved in any of the various phases

until its placement on the market, a licensee, etc. Organisations potentially interested in this technology are those devoted to the manufacture, commercialisation and/or distribution of healthcare products, particularly medical devices; as well as hospitals, healthcare centres, universities, research centres and all types of institutions engaged in oncological surgery practice as well as training of healthcare professionals.

Current stage of development

A first prototype was developed and manufactured. It was later improved after conducting various preclinical trials in pigs. The final prototype was validated by a team of surgeons at La Paz University Hospital.

Current state of intellectual property

Spanish patent P201630551, granted in August 2018.

International patent application PCT/ES2017/070249.

European patent application EP17788865.8, filed in November 2018.

USA patent application 16/096,462, filed in October 2018.



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