New design of endoscopic cap

New endoscopic accessory that allows the endoscope auxiliary water channel to be used for certain endoscopic techniques, thus freeing the working channel to perform other functions in parallel.

Description and essential characteristics

An innovative endoscopic device which, in addition to performing the functions of the accessory commonly known as the "cap", presents an original design that allows the use of the auxiliary washing channel to perform the submucosal injection function (in the case of the blunt tip) or the chromoendoscopy function (in the case of the microperforated tip), simultaneously freeing the working channel to be able to introduce through it the different catheters that may be required to perform the various techniques.

The cap is mainly intended for submucosal fluid injection in polypectomies, mucosectomies (EMR) and endoscopic submucosal dissection (ESD) without the need for an injector catheter, as well as chromoendoscopy without the need for a diffuser catheter.

At present, in order to perform submucosal fluid injection, an injection catheter must first be introduced through the working channel and once the lesion has risen, the catheter is removed and the diathermy loop or dissection knife is inserted to carry out the procedure. Typically these steps are repeated multiple times and frequently the time it takes to remove the catheter and reintroduce the loop or knife is enough for the submucosal wheal to disappear, complicating the procedure and increasing the risk of perforation. By being able to inject with the cap itself, you can have the loop or knife inserted to quickly cut the lesion once injected.

In the case of chromoendoscopy, it is currently necessary to introduce a diffuser or spray catheter through the working channel and once part of the chromoendoscopy has been performed, the catheter is removed to introduce the biopsy forceps. Typically these steps are repeated multiple times. Since it is possible to perform chromoendoscopy with the cap itself, the biopsy forceps can be inserted to take samples.

This new cap has an internal channel that is extended proximally to be inserted into the auxiliary washing channel. This cap extension extends distally to the distal end of the cap. The distal end may have one shape or another depending on the intended function: blunt tip with a single orifice (submucosal fluid injection) or microperforated (chromoendoscopy).

Competitive advantages

The invention has the advantage of enabling the realization of the aforementioned endoscopic techniques without the need to use the working channel, which would be free to introduce other necessary instruments, thereby shortening the duration of the procedures and increasing their safety.

The use of this design would allow not only to save costs but also to save time and increase the safety of the procedures.

Type of collaboration sought

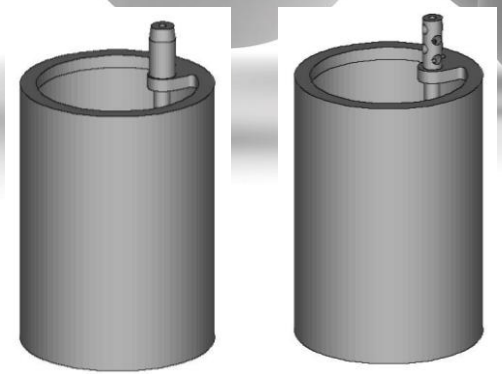
Cooperation is sought with any Party interested in partnering, licensing or investing in the technology, whether it be an investor to fund the project, a partner interested in getting involved in any of the various phases until its placement on the market, a licensee, etc. The organisations potentially interested in this technology are those devoted to the manufacture, commercialisation and/or distribution of healthcare products, particularly medical devices; as well as universities, hospitals, research centres and all types of institutions engaged in digestive care.

Current stage of development

A prototype has been developed by 3D printing techniques.

Current state of intellectual property

Spanish patent P201730569, granted in December 2018.



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