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"CATHETER FOR ABLATION OF RESECTED PARTS"

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Technical Field

This invention concerns in general the catheters for surgical use and refers in particular to a catheter for a radio-frequency ablation of resected parts.

The operation of resection of parts or organs of the body requires particular and accurate ablation treatment in order to remove what is necessary and appropriate to favour ulosis.

Summary of the Invention

One object of the invention is to propose and provide a new and original catheter specifically designed for radio-frequency treatment of resected parts.

A further object of the invention is to provide a catheter with a particular ablation and treatment head for the resected parts and which the lead of a probe for measuring the temperature of the parts being treated can pass through.

These objects have been achieved in compliance with the invention by catheter for the ablation of resected parts which includes a tubular radio-frequency conductor element, enveloped in an insulating sheath and having a proximal and a distal end, a fitting connected to the proximal end of the tubular element and which can be connected to a radio-frequency generator, and a treatment head attached to the distal end of said tubular element.

In addition, the catheter for ablation includes a probe lead passing longitudinally inside the tubular element and connectable to a thermistor to measure the temperature in the vicinity of the treatment head.

Brief Description of the Drawings

The catheter according to the invention will moreover be described in detail making reference to the enclosed indicative and not limitative drawings, in which:

Fig. 1 shows a comprehensive view of a catheter for ablation

Fig. 2. shows an enlarged cross-section according to arrows A – A in Fig. 1;

Fig. 3 shows an enlarged partial cross-section of the proximal end of the catheter, circled and specified with the letter P in Fig. 1;

Fig. 4 shows an enlarged partial cross-section of the of the distal end with treatment head circled and specified with the letter D in Fig. 1; and

Fig. 5 shows the catheter in Fig.1 complete with thermistor to measure the temperature.

Detailed Description of the Invention

As represented in the drawings, the catheter is made up of a tubular element (11) and a treatment head (12). The tubular element (11) is made of a radio-frequency conductor material, enveloped in an external insulating sheath (13) and has a longitudinal duct (14). It has a proximal end P and with a distal end D. The proximal end P is inserted in a grip (14') and is connectable, at point (15), to a lead (16) which terminates in a connector (17) which can be coupled to a radio-frequency generator. The distal end D has attached the treatment head (12).

This head (12) is basically mushroom shaped and the size can be chosen according to the type of treatment to be carried out.

It has a front functional surface (18) which is convex and, on the underside, a dorsal surface and a stem with a covered by an insulating coating (19) reaching as far as the insulating sheath (13) covering the tubular element (11).

When connected to the radio-frequency generator, the head (12) of the catheter described above is useful in particular for ablation and in general for treating resected parts.

Moreover, the longitudinal duct (14) of the tubular element (11) can be threaded, from the proximal end exiting at the distal end – see Fig. 5 – with a thermistor lead (20) to read and measure the temperature level of the treatment head, that is of the area surrounding the resected part and being treated by the catheter.

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CLAIMS

1. A catheter for treatment in particular of resected parts, characterised by a radio-frequency conductor tubular element (11), covered externally by an insulating sheath (13) and having a proximal (P) and a distal end (D), a connector (17) coupled to the proximal end of the tubular element (11) and connectable to a radio-frequency generator, and a functional head (12) attached and in contact with the distal end of said tubular element and forming a surface for radio-frequency treatment of the required parts.

2. The catheter according to claim 1, in which the functional head (12) has a convex front surface (18) and on the underside, a dorsal surface and a stem with an insulating coating leading on from the sheath covering the tubular element (11), said coating preferably being an insulating paint.

3. The catheter according to claims 1 and 2, in which the tubular element (11) surrounds a longitudinal duct for the passage of a thermistor lead exiting from the distal end to take the temperature in the parts treated with the functional head (12).

4. The use of a catheter according to the previous claims for radio-frequency ablation of resected parts.