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Instruments and Techniques

The Biopsy Snake Grasper Sec. VITALE: A New Tool for Office Hysteroscopy

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ABSTRACT Hysteroscopic evaluation of the endometrium with biopsy can be performed using different graspers whose terminal ends have specific features. This technical note aims to describe an innovative hysteroscopic grasper, the biopsy snake grasper sec. VITALE (Centrel S.r.l., Ponte San Nicolò, Padua, Italy), which can be used to grasp and cut at the same time. The characteristic features of this grasper are as follows: a sleeve with an opening along the whole width, a flat pointed tip with serrated edges fixed to its end by a U-shaped joint, and 2 sharp-edged jaws that completely encompass the tip when they are clenched. The biopsy snake grasper sec. VITALE, therefore, aims to be a useful innovative tool. It is a robust, easy-to-use instrument compatible with all modern hysteroscopes equipped with a 1.67-mm (5 French) working channel. Journal of Minimally Invasive Gynecology (2020) 27, 1414−1416. © 2019 AAGL. All rights reserved.

Keywords: Biopsy; Diagnostic hysteroscopy; Endometrium; Hysteroscopic grasper

Diagnostic hysteroscopy is currently the method of choice to study the cervical canal, uterine cavity, endometrium, and tubal ostia [1]. Endometrial biopsy can be performed using different hysteroscopic graspers with terminal ends that have specific features [2]. This technical note aims to describe an innovative hysteroscopic grasper, namely, the biopsy snake grasper sec. VITALE (Centrel S.r.l., Ponte San Nicolò, Padua, Italy), which allows to grasp and cut at the same time.

Technical Presentation

The components of biopsy snake grasper sec. VITALE include a sleeve with an opening along the whole width, a flat pointed tip with serrated edges fixed to its end by a U-shaped joint, and 2 sharp-edged jaws that completely encompass the tip when they are clenched (Fig. 1). The grasper is marked with the European Conformity label. It is made of stainless steel, which makes it sterilizable and reusable. The tip ends in an acute angle of 26.2° and has 5 60° angle recesses along the sides, placed 3 on the left and 2 on the right. The borders of each jaw have sharp cutting edges that cut when clenched. The surface of the jaws is smooth, convex externally, and concave internally; the articulation occurs through the opening and closing movements of the handle connected to the sleeve (Fig. 2). To perform an endometrial biopsy, after the grasper is inserted into the working channel of the hysteroscope, the opened jaws will expose the pointed tip located within them, which will then be used to penetrate the tissue to be excised. At this point, by using a pulling motion and assisted by the anchoring action of the serrated edges of the tip, it will be possible to remove the tissue grasped by the tool, resecting it using the sharp edges of the 2 jaws (Fig. 3).

Conclusions

The biopsy snake grasper sec. VITALE was designed to be a practical and innovative tool to extract biopsy samples of endometrial tissue. It is a robust, easy-to-use tool compatible with all modern hysteroscopes equipped with a 1.67-mm (5 French) working channel. For these reasons, it could become a useful tool for operators working in the field of office hysteroscopy.

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The author, Salvatore Giovanni Vitale, MD, PhD, is the owner of the patent of the Biopsy Snake Grasper Sec. VITALE described in this article.

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Fig. 1

General view of the grasper with details of the terminal end.

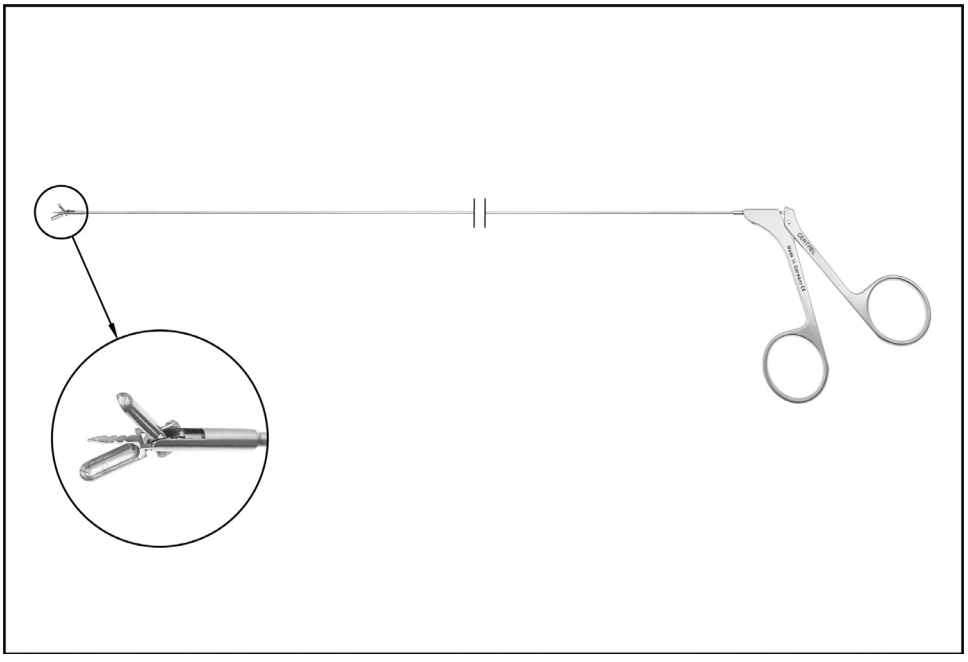


Fig. 2

Detailed technical view of the terminal end of the grasper. Detail 1 shows the front and lateral views of the tip. Detail 2 shows the serrated edges of the tip. (a) Transmission shaft; (b) sleeve with opening along the whole width; (c) sharp-edged border of the jaw; (d) U-shaped joint; (e) recess of the serrated edge characterized by a 60˚ acute angle; and (f) terminal end of the tip characterized by a 26.2˚ acute angle.

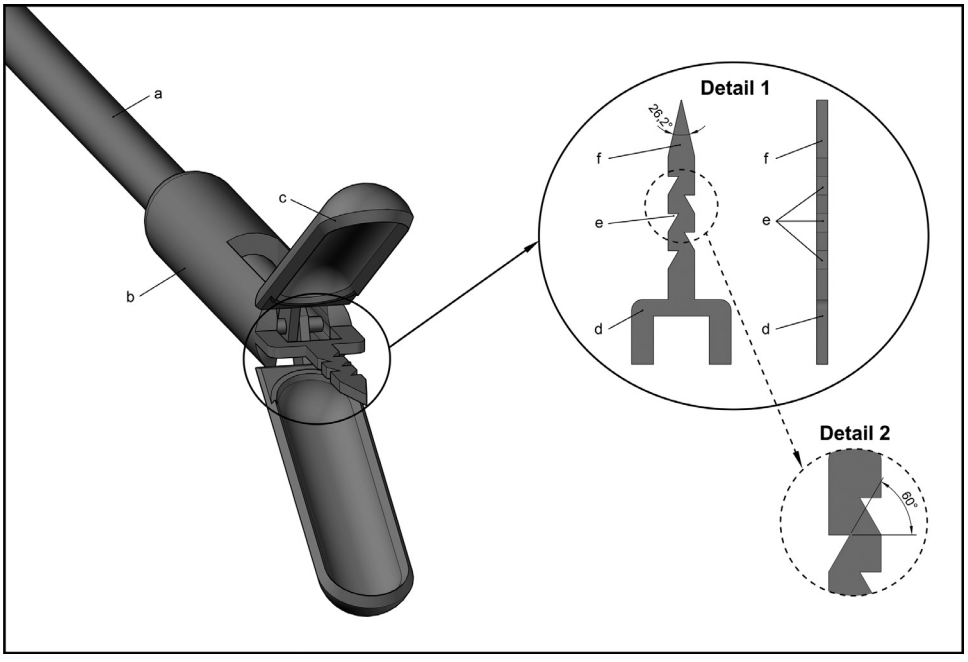
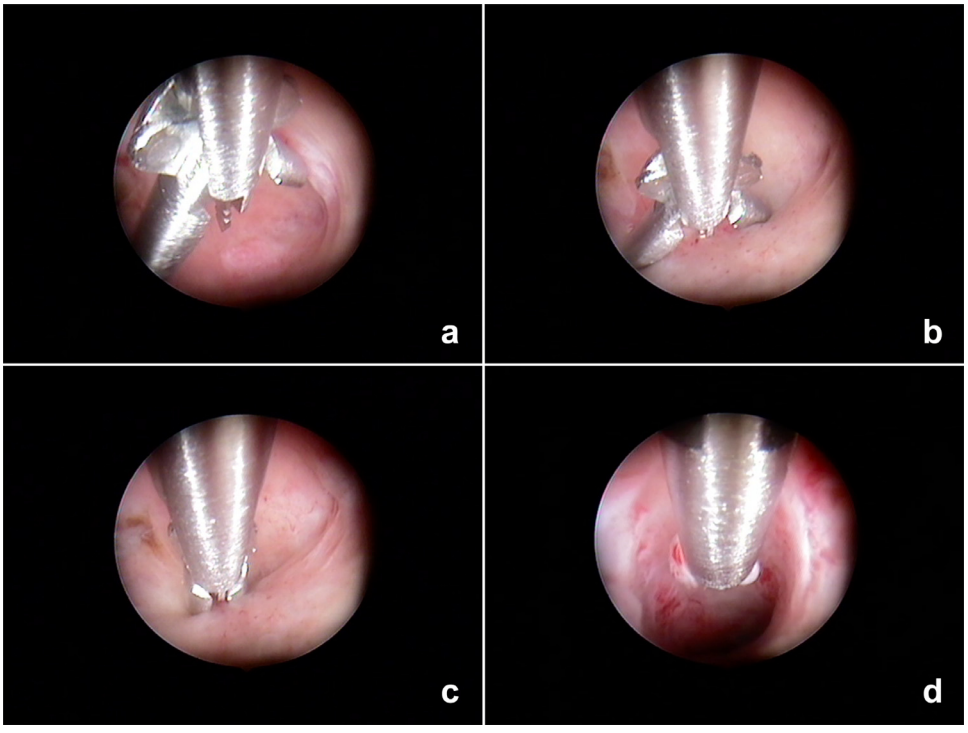


Fig. 3

Step-by-step endometrial biopsy technique using the biopsy snake grasper sec. VITALE. (a) Open jaws showing the protruded tip; (b) infixion of the tip in the tissue requiring excision; (c) clenched jaws and tissue resection; and (d) extraction of the tissue outside the uterine cavity. All patients were made aware that this was an investigational device and consented to it being used on them in an experimental manner.



References

1. Salazar CA, Isaacson KB. Office operative hysteroscopy: an update. *J Minim Invasive Gynecol*. 2018;25:199–208.

2. Laganà AS, Vitale SG, Triolo O. How to set up a hysteroscopic unit. In: Tinelli A, Alonso Pacheco L, Haimovich S, editors. *Hysteroscopy*, Cham: Springer International Publishing; 2018, 7–18.