VIDEO

The ANUBISCOPE[®] flexible platform ready for prime time: description of the first clinical case

Silvana Perretta · Bernard Dallemagne ·
Brian Barry · Jacques Marescaux

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Recent advances in interventional endoscopy and NOTES[®] have highlighted the limitations of existing flexible endoscopes. In 2005, IRCAD and KARL-STORZ began a collaborative development to create an interventional endoscopic platform to enable complex endoluminal and transluminal surgery named the ANUBISCOPE[®]. We show the first transvaginal cholecystectomy performed with this endoscopic platform.

Methods

The Anubiscope[®] consists of a flexible, 110 cm long, 4-way articulating endoscope with a 16 mm articulating vertebrae section and an 18 mm distal tip. The distal head, shaped like a trocar, incorporates two opposing, movable arms with 2 × 4.2 mm working channels and a central 3.4 mm channel. The arms function similar to a blunt tip trocar when in the closed position and when open, create triangulation of the working channels for the 2-way articulation instruments.

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S. Perretta (✉) · B. Dallemagne · B. Barry · J. Marescaux
Department of Digestive and Endocrine Surgery, IRCAD,
University of Strasbourg, 1 Place de l'Hôpital Hopitaux
Universitaires, 67091 Strasbourg, France
e-mail: Silvana.perretta@ircad.fr

Experimental work focused on peroral transluminal and intraluminal surgery on animal and cadaver models. Once approved for clinical use, the platform was used to perform a transvaginal cholecystectomy for symptomatic uncomplicated cholelithiasis. Under general anesthesia, an exploratory laparoscopy was performed via a 5 mm umbilical trocar to assess feasibility before gaining transvaginal access via a 2 cm posterior colpotomy. With the assistance of an internal retracting device, the elements of Calot's triangle were clearly identified and dissected with excellent visualization of the cystic duct and artery, which were clipped with a laparoscopic 5 mm clip applicator and divided. The gallbladder was dissected using the triangulating hook diathermy and was retrieved transvaginally in a specimen retrieval bag. The operative field was examined for haemostasis and inadvertent organ injury.

Results

Cholecystectomy was successfully accomplished in 60 min using the ANUBISCOPE[®]. The patient was discharged on postoperative day 2 and is doing well at a 6 months follow-up.

Conclusions

The Anubiscope[®] demonstrated its clinical potential in bringing surgical concepts into the lumen of hollow organs and beyond by overcoming significant limitations of current flexible endoscopes.

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