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Reply to: 'Re: "The invisible cholecystectomy"'

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Dear Editor,

We would like to thank Dr. Navarra and co-authors for their interest in our article and their valuable comments and remarks regarding 'the invisible cholecystectomy' and trans-umbilical flexible endoscopic surgery (TUFES) technique.

In our opinion, visualization with a 5-mm, 30° camera is sufficient for a safe procedure.

This camera is stable, high quality, and gives a very good view of the anatomy of the Callot triangle, permitting us to dissect it according to the critical view of safety [1]. The suggested technique by Dr. Navarra of using three transabdominal sutures for retraction and stabilization of the gallbladder may be a good alternative, however we do not have any experience with this technique [2]. In our opinion, the Kirschner wire we use (sometimes we used two wires, infundibulum and fundus of the gallbladder, in order to visualize better the Callot's triangle) has the advantage of being nonflexible. Therefore, turning movements and movements to and away from the laparoscope directly facilitate exposure of the medial and lateral aspects of the triangle of Callot. Using this traction method the exposure of the triangle of Callot is very good and we can change the orientation of the anatomy as much as we need [3]. We can imagine that fixation of the gallbladder by means of stitches is possible, however this may not permit the flag changes you need during the operation. Currently we are investigating the use of magnets in order to achieve the same exposure as with the Kirschner wire. Concerning the incidence of umbilical incisional hernias, in all our patients treated with our technique this complication has not been observed. The randomized study performed by his group, remarked upon by Dr. Navarra, is to our knowledge unpublished; we are not preparing this kind of study with our approach.

Moreover, the hybrid technique Dr. Navarra describes using a combination of both the natural orifice transluminal endoscopic surgery (NOTES) technique transvaginally and a 5-mm trocar inserted at the umbilicus is an interesting approach, but in our opinion not practical. At this time, to reduce still more the operative trauma you have to choose between the NOTES and TUFES approaches. The problems of NOTES are caused by the use of natural orifices to introduce the flexible endoscope. This will, without doubt, introduce risks and produce complications. The umbilicus is a natural scar, localized in the middle of the abdomen, and from this position will facilitate, along with the use of the new endoscope, pushing the boundaries of endoscopic surgery. The development of the flexible endoscope is the real improvement awaited in the near future and not the use of natural orifices for its introduction. The image produced by current flexible endoscopes are not stable enough for high-quality surgery and the instruments to work with are not precise enough for surgery without risks. Developments in the future will yield greater precision and safety. Furthermore, other groups are developing more-rigid scopes with more effective work channels in order to fix these problems, giving more stable vision and more angulation with better instruments, as the surgeon is accustomed to.

This is a promising development and modifications, such as that mentioned by Dr. Navarra, will help this goal. In our opinion, we would still prefer to develop the TUFES technique through the natural scar, the umbilicus, for all possible access to abdominal pathology. In this way, other

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healthy structures such as vagina and stomach used in NOTES can be spared, in this way avoiding possible collateral complications.

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