Robotics in Surgery and Endoscopy

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Surgery and endoscopy have always encountered rapid innovation and development. Since the first laparoscopic gallbladder was removed in 1985 [1], minimal invasive surgery has developed into a rapidly evolving field. Over the last decade, research in this field was focused on safety in terms of perioperative and oncologic outcomes, which have been proven equivalent to open surgery in most areas of the field. The next decade now is challenged by technical innovations in the optical field, in robotics, and intelligent enhancements in endoscopy and surgery.

Innovations in imaging as optical coherence tomography [2] and confocal microscopy in addition to nanopar-

ticle imaging [3] have the potential for live histologic imaging at the tip of an endoscope or a laparoscope. These innovations, their technical background and applicability in clinical practice, are in the focus of this issue [4, 5].

A second highlight of this issue is the use of robotics in endoscopy and surgery. The innovation and new instruments at hand pose challenges to teachers and training. In this issue of *Visceral Medicine*, we describe the technical approach to pancreatic surgery [6] as an evolving field in the area of robotic-assisted surgery.

Finally, these innovations have to be evaluated again for safety and benefit to our patients, a task that needs to be placed in the hands of our societies.

References

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