Two-port needlescopic cholecystectomy: a critical appraisal

To the Editor—Lee et al[1] are to be commended for their ingenuity and perseverance in the search for a truly minimally invasive cholecystectomy. They rightly conclude that their two-port needlescopic technique "may further improve the surgical outcomes in terms of postoperative pain and cosmesis". Unfortunately, no scientific evidence was provided in the article of an assessment of their patients' satisfaction with the scar that had been reduced by 1.5 mm. Also, the median overall postoperative pain score was lowered only marginally, without statistically significant improvement. Nevertheless, these minor points do not in any way negate their valuable contributions. Indeed, I would hasten to enumerate the many virtues of their innovation—which were not even been briefly mentioned in the otherwise superb article.

First, their technique inflicts the smallest possible wound—and thus is an extreme example of 'minimally (=least) invasive (=trauma) surgery'—among the myriad variations of laparoscopic techniques described worldwide. There exists in the literature a prior report on laparoscopic cholecystectomy via a one-port incision; however, the single wound is, in fact, merely the result of combining the camera and adjacent 10-mm working ports.[2] Therefore, Lee et al's accomplishment emulates that of our 'scarless laparoscopic appendectomy': both truly represent the pinnacle of minimal-access endeavours in their respective fields.[3]

Second, compared with the four-port needlescopic techniques, their two-port technique is superior in cosmesis and in ergonomic terms, especially in cases of inflammation rendering the gallbladder difficult to hold and vulnerable to puncture by the tiny jaws of 2-mm or 3-mm endograspers. It should be noted that the authors used a 5-mm endograsper with thicker jaws. Touting the advantages of needlescopic techniques, the authors made reference to a previous description of four-port laparoscopic technique.[1] In fact, this method has been criticised as being cosmetically suboptimal, placing an extended 12-mm port wound in the prominent left hypochondrium.[4]

Third, the two-port technique is safe in that operative visibility is not sacrificed for a better aesthetic result, as is the case in other needlescopic variants. Their 10-mm videoscope provides much better vision than the 2-mm or 3-mm needlescope employed routinely in some other needlescopic cholecystectomy techniques.

Fourth, the described technique is the most cost-effective of its kind: only a small number of reusable instruments are utilised, and the only special expense is a 250-cm Polysorb suture (Auto Suture; Norwalk, Connecticut, US) costing about HKD30. In the current economic climate, cost containment is of paramount importance.

In the article, polypropylene was mistaken for lactoma as the material of Polysorb. Polypropylene, like other nonabsorbable materials, is not recommended for ligating the cystic duct because of its well-known tendency to erode into the bile duct and form stones.

Finally, to strike a note of caution, the magnificent results reported by the dedicated originators are not generalisable straightaway to other centres or operators. As always, great care should be exercised during any attempt to reduce the number of ports if we are to continue pleasing our patients.[5]

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Authors' reply

To the Editor—We would like to thank Dr Ng for his comprehensive comments. In the era of minimal invasive surgery, the outcomes we consider are not only safety, but also quality, which is often defined by pain and cosmetic result. Scarless surgery is the ultimate goal for both surgeons and patients. Though patient satisfaction results were not assessed in this prospective study, there is some evidence in the literature of patient preference for two-port techniques. A previous report on two-port laparoscopic cholecystectomy (LC) has already shown that all patients would choose two-port over four-port approach.[1] In our previous randomised trial of two-port versus four-port LC, the two-port group had a higher mean satisfaction score in regard to their scar, though the difference did not reach the level of significance.[2] Needlescopic surgery is another important achievement in pursuit of superior cosmetic outcome.[3] The price to be paid is the fragile, expensive instruments, and more demanding surgical technique. Our two-port needlescopic technique, using a 3-mm needlescopic instruments, reaches the maximal degree of a minimally invasive approach without compromising safety. There is certainly a learning curve in the mastery of the new technique; nevertheless, surgical residents under supervision can perform two-port LC well.[2]

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More on phaeochromocytoma

To the Editor—Ku et al[1] are to be congratulated on managing their case of phaeochromocytoma extending into the right atrium with such finesse after careful surgical planning. Their report also highlights the importance of a multidisciplinary team approach to achieving such excellent results and minimal morbidity. However, this patient presents as great a challenge to the anaesthetic team as to our surgical colleagues, and there was a paucity of discussion in the report of any special anaesthetic management in this patient, in particular of intra-operative haemodynamic control. Such discussion could help share the latest information on the perioperative management of this rare disease, ie doxazosin instead of phenoxybenzamine for preoperative alpha-blockade,[2] or nifedipine infusion for intra-operative blood pressure (BP) control.[3] I was particularly impressed with the statement, "The blood pressure remained stable without any episode of hypertensive crisis." I would be eager to know if this applied to the whole period of surgery. My limited experience of six cases of phaeochromocytoma over the past few years (including two undiagnosed cases) has shown that, despite preoperative alpha- and beta-blockade, wide BP swings were inevitable and tumour manipulation required extra hypotensive therapy. Perhaps the preoperative stabilisation in my patients has been inadequate.

I wish to share my experience of anaesthetising a patient with an undiagnosed intracardiac phaeochromocytoma a few years ago. This 41-year-old male patient presented with headache, sweating, chest pain, hypertension, and palpitations; and had been investigated in Macau and China. Both echocardiography and magnetic resonance imaging revealed a large right atrial mass but no intra-abdominal mass. Cardiac catheterization showed a 95% narrowed left anterior descending branch which was stented. Medical treatment included atenolol, perindopril,