1. Access to the Abdomen

A. Introduction

Initial access to the abdomen may be achieved percutaneously with a Veress needle (closed technique), or by a small cutdown and direct placement of a blunt-tipped Hassan cannula into the peritoneum under visual control (open technique). A variety of optical access trocars are also available, but most are used after pneumoperitoneum is first established percutaneously. Laparoscopic surgeons need to be facile in both the open and closed techniques, but most have a strong preference for one or the other method and will use that method preferentially, modifying the technique if unusual circumstances exist. This chapter uses the case of a healthy young woman with no previous abdominal surgery to explore these choices and preferences. Both techniques are thoroughly described in the SAGES manuals.

B. Case

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A 26-year-old woman came to the emergency department complaining of severe, nonradiating right lower quadrant abdominal pain. The pain began approximately 12 hours earlier as a dull, generalized abdominal pain. It then localized to the periumbilical region, and then the right lower quadrant. The pain intensified with any movement. She rated it as a 9 out of 10.

She had not eaten since the pain began. She was nauseated, and vomited twice. She was taking oral contraceptives. Her last menstrual period was approximately 18 days ago. She had no previous abdominal surgery, and was healthy except for asthma and seasonal allergies. She was married, with a 2-year-old son (vaginal delivery). She did not smoke, and had about one glass of wine per week.

On physical examination, her temperature was 38.1°C, respiratory rate 18, blood pressure 120/70, and pulse 90. Her height was 5 feet 6 inches, and she weighed 65 kg. Her abdomen was not distended, without scars or hernias. It was moderately tender, with decreased bowel sounds and
voluntary guarding. Rovsing’s sign was positive, and the psoas and obtur- 
or signs were negative.

Laboratory examination was significant, with a white cell count 
of 15.5. Hematocrit and hemoglobin were normal. Urinalysis was 
negative.

Computed tomography (CT) abdomen and pelvis revealed a thick- 
ened appendix with periappendiceal inflammation consistent with acute 
appendicitis. No fluid was seen.

Laparoscopic appendectomy was planned. Would you prefer 
a Veress needle or a Hassan cannula for abdominal access in this 
patient?

C. Veress Needle

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Our preference would be to use a Veress needle for creating 
pneumoperitoneum. Veress needle access is rapid and safe in experi- 
enced hands. Our personal experience has been confirmed by several 
studies.

Merlin et al. published a systematic review examining the safety 
and effectiveness of various access techniques for the creation of pneu- 
moperitoneum. The authors (1) wanted to test the hypothesis that open 
(Hasson) access is safer than closed (needle/trocar) technique, and 
(2) examined the differences in the safety and effectiveness of the out- 
comes based on patient age, sex, weight, previous abdominal surgery, 
indication for surgery, and surgical experience. They found no statistical 
difference in major complications between open and closed methods 
(0–2% vs. 0–4%). Separate subanalysis for bowel and vascular injury 
once again failed to reveal any significant difference. Other major 
complications such as hematoma and access-site herniation seem to be 
more common with the open access method compared to the closed 
methods. Once again, these differences were small and of no signifi- 
cance. Conversion to laparotomy in nonobese patients was on a lesser 
magnitude, with the open access method compared to the closed access 
methods. When the authors analyzed the effectiveness of establishing 
pneumoperitoneum between the two methods, the open access method