Patient Positioning

5

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This chapter illustrates the proper positioning of the patient for operations to treat esophageal diseases, including laparoscopic antireflux surgery, laparoscopic Heller myotomy, and Ivor Lewis hybrid esophagectomy. The placement of ports for these operations is also shown and discussed.

5.1 Patient Positioning for Laparoscopic Antireflux Surgery, Laparoscopic Heller Myotomy, and the Laparoscopic Part of Ivor Lewis Hybrid Esophagectomy

As shown in Figs. 5.1, 5.2, and 5.3, the patient is positioned supine on the operating table over a bean bag that is inflated to prevent sliding during the operation when a steep reverse Trendelenburg position is used. After induction of general endotracheal anesthesia, the legs are extended on stirrups, and the knees are flexed at angle of 20°–30°. The surgeon performs the procedure standing between the patient's legs, with an assistant on the right side of the operating table and another one on the left side.

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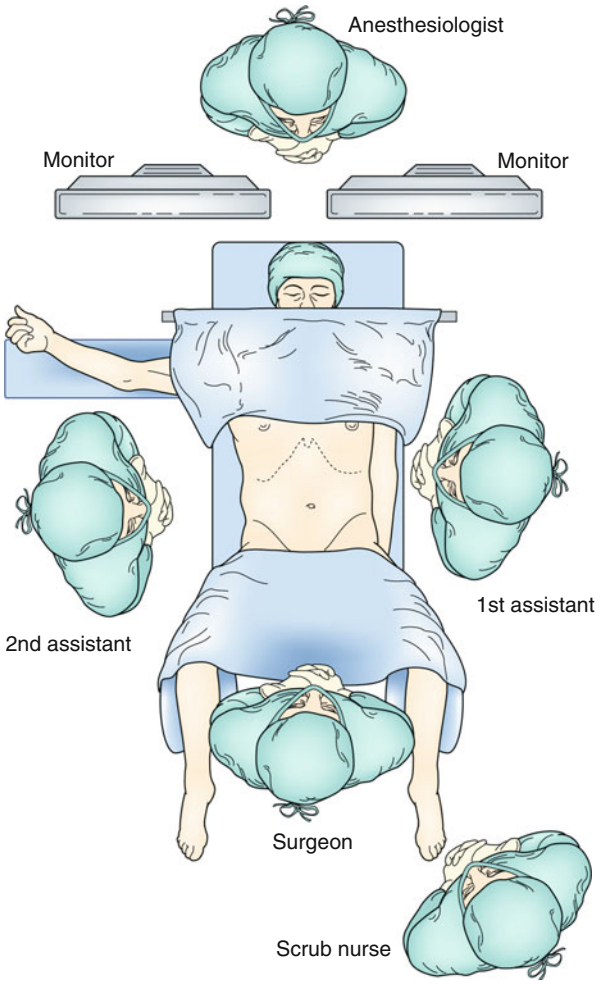

Fig. 5.1 The surgeon performs the procedure standing between the patient's legs, with an assistant on the *right* side of the operating table and another one on the *left* side

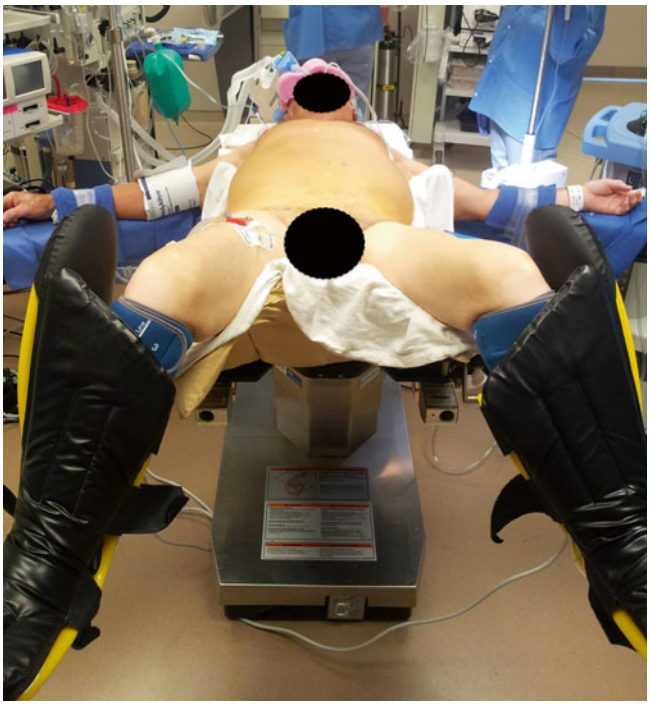

Fig. 5.2 The patient is positioned supine on the operating table. The legs are extended on stirrups, and the knees are flexed at angle of 20°–30°

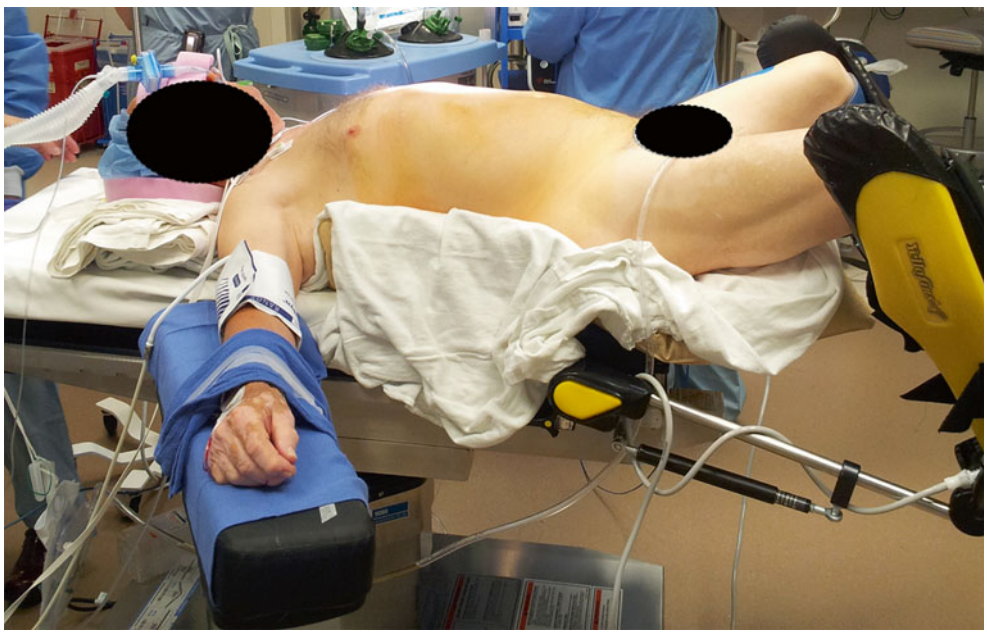

Fig. 5.3 The patient is positioned over a bean bag that is inflated to prevent sliding when a steep reverse Trendelenburg position is used

5.2 Trocar Positions for Laparoscopic Antireflux Surgery and Laparoscopic Heller Myotomy

Using a Veress needle that is placed 14 cm below the xiphoid process, we initially inflate CO_2 into the abdominal cavity to a pressure of 15 mmHg. Alternatively, a Hasson cannula can be used. We recommend using an optical trocar with a 0° scope to obtain access.

Figures 5.4 and 5.5 illustrate the positions of the five 11-mm trocars that are used for these operations. Trocar 1, which is used for the 30° camera, is placed in the same location as the Veress needle. Trocar 2 is placed in the left midclavicular line at the same level as trocar 1; it is used for insertion of a Babcock clamp, a grasper to hold the Penrose drain surrounding the esophagus, or a device to take down the short gastric vessels. Trocar 3 is placed in the right midclavicular line at the same level as the first two trocars; it is used for insertion of a retractor to lift the left lateral segment of the liver. Trocars 4 and 5 are placed under the right and left costal margins, so that their axes form an angle of about 120° with the camera. They are used for the dissecting and suturing instruments.

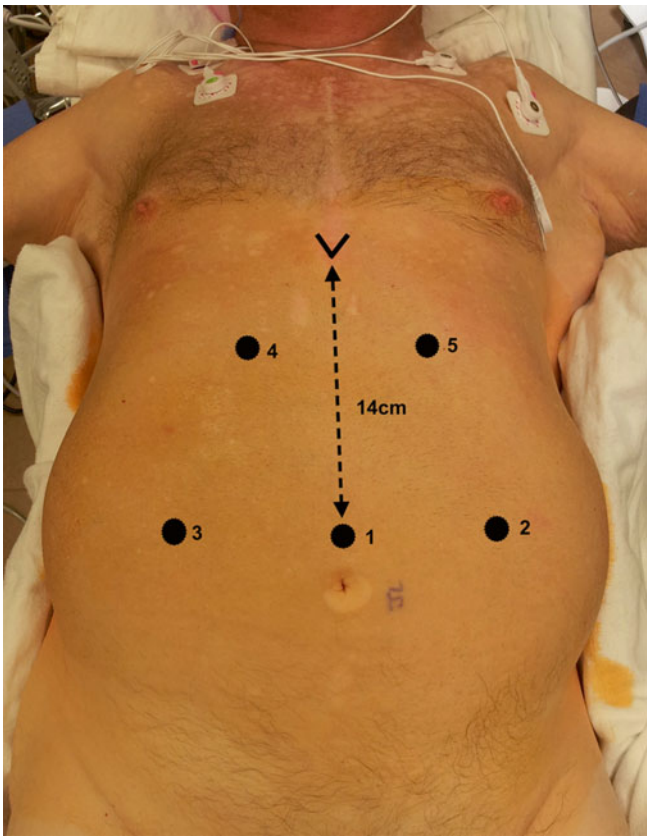

Fig. 5.4 The positions of the five 11-mm trocars used in laparoscopic antireflux surgery and Heller myotomy (see text for details)

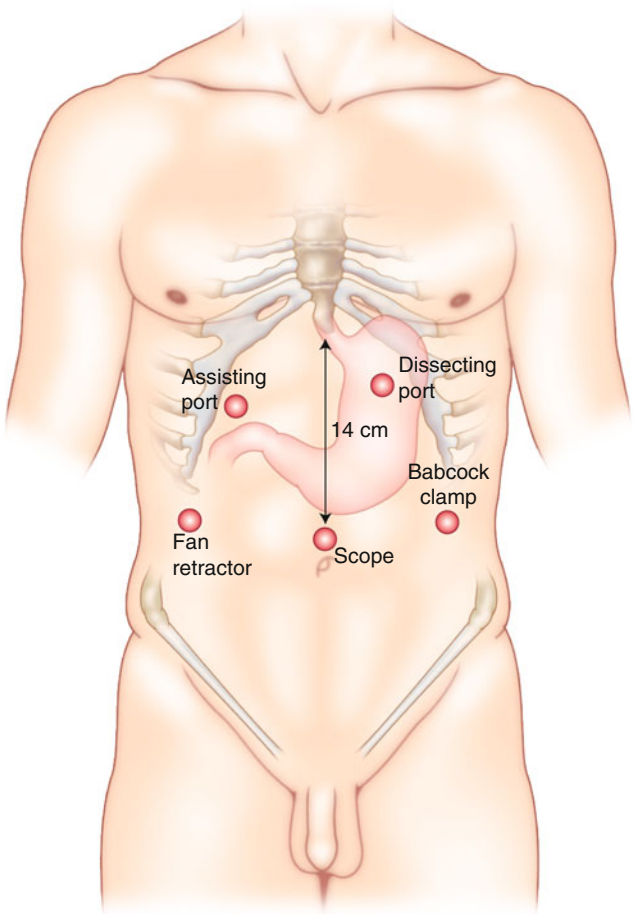

Fig. 5.5 The positions and functions of the five trocars

5.3 Trocar Positions for the Laparoscopic Part of Ivor Lewis Hybrid Esophagectomy

We initially inflate CO_2 into the abdominal cavity to a pressure of 15 mmHg, through a Veress needle that is placed 16 cm below the xiphoid process. Alternatively, a Hasson cannula can be used. We recommend using an optical trocar with a 0° scope to obtain access.

Figure 5.6 shows the placement of the four 11-mm trocars and one 12-mm trocar (for the insertion of the mechanical stapling device) that are used for the operation. Trocar 1, which is used for the 30° camera, is placed in the same location as the Veress needle. Trocar 2 is placed in the left midclavicular line at the same level as trocar 1; it is used for insertion of the a Babcock clamp, a grasper to hold the Penrose drain surrounding the esophagus, a device to take down the short gastric vessels, or the stapling instrument. Trocar 3 is placed in the right midclavicular line at the same level as the other two trocars; it is used for insertion of a retractor to lift the left lateral segment of the liver and then for the insertion of the camera during the performance of the pyloroplasty. Trocars 4 and 5 are placed under the right and left costal margins, so that their axes form an angle of about 120° with the camera. They are used for the dissecting and suturing instruments. An additional 5-mm trocar (5bis) can be placed in the right upper quadrant for the performance of the pyloroplasty.

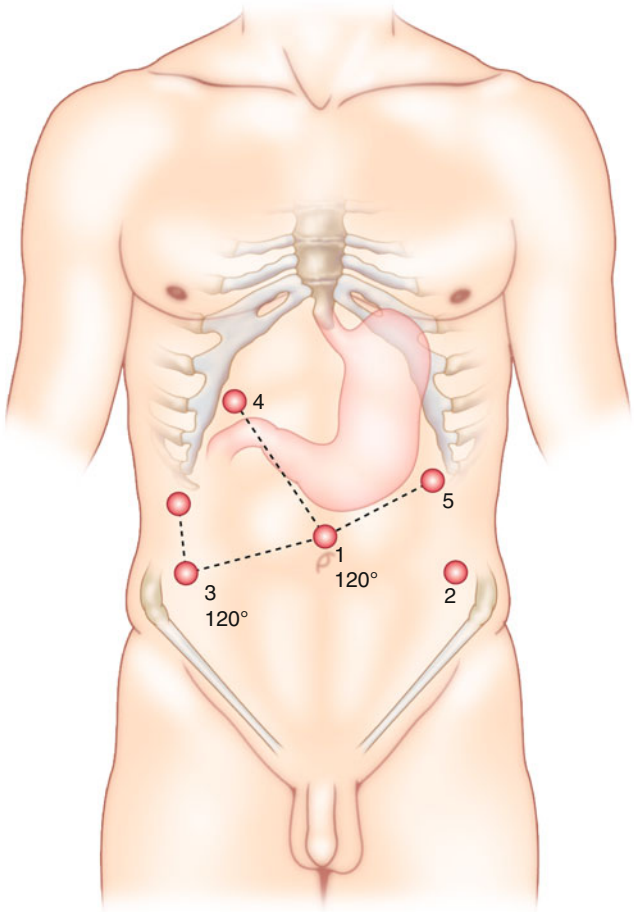

Fig. 5.6 The positions of the trocars used in the laparoscopic part of Ivor Lewis hybrid esophagectomy (see text for details)

5.4 Patient Positioning for the Thoracic Part of Ivor Lewis Hybrid Esophagectomy

For this procedure, the patient is on left lateral decubitus. Figure 5.7 shows the location of the right thoracotomy used for this procedure.

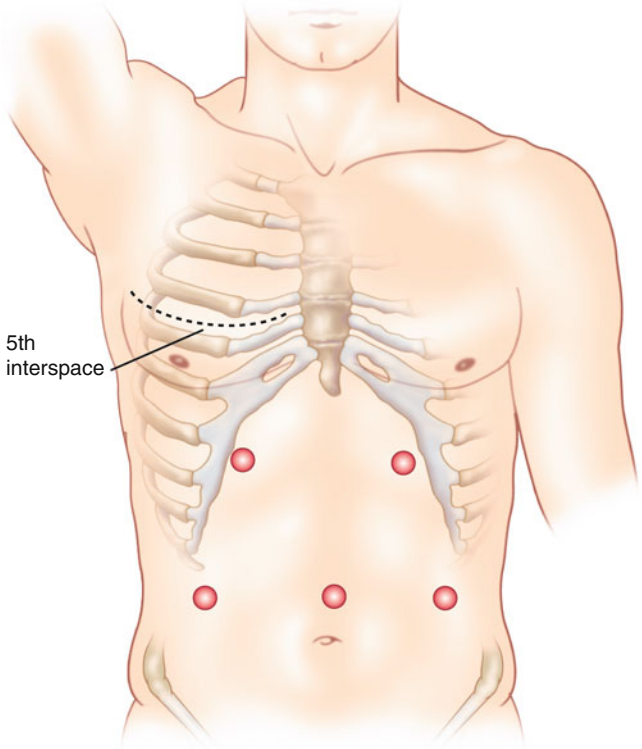

Fig. 5.7 The thoracic part of Ivor Lewis hybrid esophagectomy is performed using a right thoracotomy, with the patient in the left lateral decubitus position

Suggested Reading

Allaix ME, Herbella FA, Patti MG. Hybrid trans-thoracic esophagectomy with side-to-side stapled intra-thoracic esophagogastric anastomosis for esophageal cancer. J Gastrointest Surg. 2013;17(11):1972–9.

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