

Supplementary 1

Gasless technique

For gasless pneumoperitoneum, the patient was placed in a deep Trendelenburg position (30°) with straight legs. We suspended the anterior abdominal wall from both sides of umbilicus, McBurney point, and anti- McBurney point with abdominal wall suspension device. When the abdominal muscles are relaxed after anesthetizing, a wire needle is used to pass through the abdominal wall and then suspended. A 2-cm vertical incision was made in the umbilicus and abdominal cavity was entered. A small Alexis wound retractor (Applied Medical Systems, Rancho Santa Margarita, CA, USA) was used to provide a smooth and easy surface for the entry of the laparoscope and the laparoscopic instruments.



