Rothrock: Alexander's Surgical Procedures

Chapter 02: Gastrointestinal Surgery

Test Bank

MULTIPLE CHOICE

1. Select the statement that best reflects the functional components of the gastrointestinal (GI) tract.
   a. The GI tract is a continuous pathway from mouth to rectum.
   b. Peristaltic waveforms produce agitation, which digests large food particles.
   c. The alimentary canal extends from the mouth to the anus.
   d. The microscopic ecosystem of the GI tract is an unbalanced colony of germs.

   ANS: C
   The GI tract, or alimentary canal, is a continuous tubelike structure that extends the entire length of the trunk. The tract includes the mouth; pharynx; esophagus; stomach; small intestine, consisting of the duodenum, jejunum, and ileum; and large intestine, which consists of the cecum, ascending colon, transverse colon, descending colon, sigmoid colon, rectum, and anus.

   REF: 12

2. A patient whose neck has been slashed and has a severed lower trachea may also have injury to the:
   a. aorta.
   b. esophagus.
   c. duodenum.
   d. bronchial merge.

   ANS: B
   The esophagus begins at C6 and passes through the neck posterior to the trachea.

   REF: 12

3. Exposure of intra-abdominal anatomy is crucial to safe surgery and employs varied instruments, applications of highly technical energy sources, patient manipulations, light, and imaging. What is unique to the laparoscopic approach that promotes exposure?
   a. Self-retaining retractors
   b. Automatic rod-lens fiberscope
   c. Carbon dioxide pneumoperitoneum
   d. Endoscopic fan blades

   ANS: C

Abdominal insufflation with carbon dioxide expands the abdominal compartment, permitting better visualization and room to manipulate instruments.

REF: 20

4. Select the statement that most correctly matches a risk factor for adhesions with an appropriate preventive strategy.
   a. Multiple surgeries may be managed with the use of sequential compression devices.
   b. Glove powder adhesions can be prevented with cellulose mist.
   c. Patients with endometriosis may be best served with a laparoscopic approach.
   d. Fibrous bands within the peritoneum can be treated with sterile talcum powder.

   ANS: C
   Adhesions may also develop as a result of radiation-induced endarteritis, endometriosis, pelvic inflammatory disease (PID), or Crohn's disease. Preventive measures include the following: minimizing tissue trauma and inflammation with meticulous surgical technique and using the laparoscopic approach when indicated.

   REF: 32

5. The general risks associated with gastrointestinal surgery parallel those risks associated with most abdominal procedures. Select a complication that is the most typical risk associated with surgery of the large bowel.
   a. Colitis
   b. Peritonitis
   c. Paralytic ileostomy
   d. Intestinal obstruction

   ANS: B
   The risks for injury or failure to achieve the intended outcome are equally present in GI surgery as in any surgical or invasive procedure. The surgical and anesthesia experience challenges the immune system and poses many risks of introducing endogenous and exogenous microorganisms.

   REF: 71

6. As the surgeon prepared to clamp and transect the bowel during a small bowel resection for tumor, the scrub person transferred instruments from the Mayo stand to the back table and prepared the sterile field for bowel isolation technique. The rationale for this application involves
   a. Risk for Infection
   b. Risk for Metastasis
   c. Risk for Tissue injury
   d. Risk for Infection

ANS: A
Bowel technique, also referred to as contamination or isolation technique, prevents cross-contamination of the wound or abdomen with bowel organisms. Initiate practices required for creating and maintaining a sterile field. Protect the patient from cross-contamination—employ bowel/GI technique as appropriate.

REF: 27

7. During a laparoscopic colectomy, the scrub person carefully placed the endoscopic electrosurgery instruments on the Mayo stand after inspecting the integrity of the insulation along the shaft. This practice is designed to meet the expectation for the following outcome: The patient will be free from:
   a. fluid and electrolyte imbalance.
   b. thermal burns and adhesions.
   c. impaired tissue integrity.
   d. thermal burns and adhesions, and impaired tissue integrity.

   ANS: C
   The patient is at risk for impaired tissue integrity from thermal burns that may be caused by defects in the surface of the insulation coating on laparoscopic electrosurgery instruments.

   REF: 58

8. Which statement about the McBurney incision is most correct?
   a. It is an oblique inguinal incision in the left lower quadrant.
   b. It is the incision of choice to repair a direct inguinal hernia.
   c. It is an oblique inguinal incision in the right lower quadrant.
   d. The direction is more transverse than oblique.

   ANS: C
   The McBurney incision is an open appendectomy approach and the appendix is typically in the right lower quadrant of the abdomen.

   REF: 28

9. Triangulation is a term used to describe the method used to provide instrument access to the anatomy during abdominal surgery. It is uniquely associated with which surgical incision?
   a. Mid-epigastric transverse incision
   b. Left paramedian incision
   c. Thoracoabdominal incision
   d. Laparoscopic port incisions

   ANS: D

Traditional laparoscopic port placement, via triangulation, is the fundamental concept of laparoscopic surgery. It places the instruments on planes where they meet to effectively support dissection with adequate visualization and identification of anatomy and pathology. Incorrectly placed ports can cause "sword-fighting" instruments and indirect access to the operative anatomy.

REF: 34

10. When setting up for a gastrectomy, the scrub person will ensure that appropriate instruments are available to clamp and ligate the:
    a. branches of the peritoneal artery.
    b. splenic vessels.
    c. popliteal artery.
    d. Treitz arterial stump.

    ANS: B
    Gastrectomy requires clamping and ligating the splenic vessels.

    REF: 51

11. Two patients are scheduled to have a gastrojejunostomy for obstruction. How will perioperative planning differ for a patient weighing 280 lb as compared to that for a 150-lb patient?
    a. The ligament of Treitz will not need to be identified in a lighter person.
    b. Forced air–warming devices are more important for a lighter patient.
    c. The anastomosis will require sutures rather than staples for the heavier patient.
    d. Deaver retractors will replace Richardson retractors with the heavier patient.

    ANS: D
    The larger patient will require longer instruments and deeper retractors.

    REF: 22

12. Edward Lewis is scheduled for a transthoracic esophagectomy with lymph node dissection for cancer of the esophagus. Which incisional approach is indicated for this procedure?
    a. Left thoracoabdominal incision
    b. Right posterior lateral thoracotomy and midline abdominal incision
    c. Three-incision (three-hole) approach with cervical, right thoracotomy, and midline laparotomy incisions
    d. Any of the three above incisions may be used per surgeon preference or tumor location.

    ANS: D

Transthoracic esophagectomy is indicated for disease of the middle third of the esophagus and high-grade dysplasia in Barrett's esophagus, permitting complete lymph node dissection under direct vision and combines a left-sided thoracoabdominal incision or separate right posterior lateral thoracotomy and midline abdominal incision. The latter describes the traditional Ivor Lewis approach. Another variation, sometimes called the "three-hole esophagectomy," combines an approach for proximal tumors. The single-incision thoracoabdominal incision provides the best exposure for low gastroesophageal junction tumors and is indicated for patients with cardiac and pulmonary disease.

REF: 39

13. Sharon Close has been diagnosed with severe gastroesophageal reflux disease (GERD) without the dysplastic changes of Barrett's esophagus. Her GERD is unresponsive to proton pump inhibitors and histamine blockers. She also has a history of endometriosis with multiple surgeries for ablation of endometrial implants on her small bowel and adhesiolysis. Her surgeon is hesitant to pursue an open or a laparoscopic Nissen surgical approach. What procedure might her surgeon consider in lieu of a Nissen?
    a. Thoracoabdominal partial esophagectomy
    b. Endoscopic mucosal resection
    c. Endoluminal plication of the lower esophageal segment
    d. Heller's myotomy

    ANS: C
    Endoluminal plication is an antireflux procedure that can be performed endoscopically in an endoscopy procedure room using moderate sedation or a general anesthetic. One example is the EndoCinch (Bard Medical) technique that dilates the lumen of the esophagus before passing the EndoCinch device through an EGD scope. The device is a sewing capsule that pinches or pleats mucosal folds and anchors them in place with suture. Several plications are placed in a circumferential or staggered vertical pattern. Another device is the Wilson-Cook sewing system (Wilson-Cook Medical). It is a submucosal plication device that suctions a small fold of tissue into the lumen of the scope accessory, and then plicates, sutures, and knots the tissue pleat.

    REF: 40

14. An abdominal perineal resection, or APR, for a patient at high risk for colon cancer without anal/rectal involvement (e.g., familial adenopolyposis [FAP]) can be accomplished through an open laparotomy or laparoscopic-assisted ileoanal pull-through approach, per surgeon preference and appropriate patient selection. Which of these statements about approaches for APR is correct?
    a. Both open and laparoscopic approaches require an abdominal skin incision(s) and perineal incision(s).
    b. Neither approach requires two or more skin incisions.
    c. Both procedures require only an abdominal skin incision(s) as the rectal segment is removed and anastomosed intraluminally.
    d. The laparoscopic-assisted approach only has an abdominal skin incision(s).

ANS: D
The laparoscopic-assisted ileoanal pull-through procedure for total colectomy creates a rectal anastomosis in which the distal ileal segment is anastomosed to the rectal segment. Intraluminal staples are inserted through the rectum to connect the rectum to the created J pouch. The only skin incisions are the trocar port sites.

REF: 66

15. Select the diagnosis/procedure option that pairs the correct surgical diagnosis with the surgical/endoscopic procedure for diseases of the esophagus:
    a. Barrett's dysplasia of the distal esophagus/endoscopic mucosal resection (EMR)
    b. Gastroesophageal reflux disease (GERD)/photodynamic therapy (PDT)
    c. Zenker's diverticulum/Ivor Lewis esophagectomy
    d. Esophageal varices/Heller myotomy

    ANS: A
    Endoscopic mucosal resection (EMR) is an interventional technique to remove submucosal flat or depressed lesions of Barrett's esophageal dysplasia.

    REF: 38

16. Review the list below and select the answer that reflects the correct match between the procedure and the disease.
    a. Duodenoscopy for gastric reflux disease and hiatal hernia
    b. Bariatric surgery for Roux-en-Y for gastritis
    c. Esophagogastroduodenoscopy (EGD) for gastric ulcer disease
    d. Small bowel enteroscopy for ulcerative colitis

    ANS: C
    Common GI endoscopy procedures used to establish a diagnosis or monitor gastric disease include esophagogastroduodenoscopy (EGD) (also referred to as gastroscopy or upper endoscopy).

    REF: 36

17. Carly Shelmire is a 5-year-old girl with a history of weight loss and stomach upset and pain after eating; she is also small for her age. Her pediatrician suspects celiac disease. Carly has arrived at the pediatric endoscopy unit for a procedure that is less invasive and will also have the benefit of spending the next few hours in the mall across from the hospital with her mom until the procedure is over. What is Carly's scheduled procedure?
    a. GI manometry
    b. Small bowel enteroscopy
    c. Capsule endoscopy
    d. Stretta procedure

ANS: C
Capsule endoscopy is an emerging technology and noninvasive diagnostic test that uses a small wireless camera in the shape of a capsule about the size of a large vitamin. This device is suitable for imaging the mucosal surface of the esophagus, stomach, and small intestine.

REF: 20

18. Select the option that pairs the correct surgical diagnosis with the surgical/endoscopic procedure for diseases of the abdomen.
    a. Peritoneal cancer/hyperthermic intraperitoneal chemotherapy
    b. Ascites/hyperthermic intraperitoneal antibiotic therapy
    c. Adhesions/lysis of adhesions
    d. Peritoneal cancer/hyperthermic intraperitoneal chemotherapy and adhesions/lysis of adhesions

    ANS: D
    Cancer of the peritoneum can be treated with topical application of selected chemotherapeutic agents instilled into the abdomen after induction of anesthesia. Lysis of adhesions is a surgical procedure that employs sharp tissue dissection to cut and release adhesions.

    REF: 35

19. Ramona Guerne has been admitted through the emergency department for severe abdominal pain, distended abdomen, and fever. The surgery service has been consulted and has scheduled her for exploratory surgery. Ramona has undergone two abdominal surgeries in the past for “female problems” and states that she has a tendency to form keloids. A small bowel obstruction is suspected. Postoperative ileus is a common complication of open abdominal surgery. Select the procedure that is least likely to promote postoperative ileus formation in this patient.
    a. Long (4-hour) laparoscopic procedure, with incidental peritonitis
    b. Open small bowel resection with postoperative signs of pancreatitis
    c. Laparoscopic lysis of adhesions with release of bowel torsion
    d. Laparoscopic-assisted hemicolectomy with mild peritoneal inflammation

    ANS: C
    A laparoscopic approach combined with sharp-dissection lysis of adhesions and release of bowel torsion (twisting) does not include a bowel resection and will not cause excessive manipulation of the bowel. This patient may possess risk factors for development of postoperative (paralytic) ileus attributable to two past surgeries, keloid history, and possible bowel obstruction.

    REF: 32

20. Specific positioning considerations for bariatric patients require particular attention to protecting these patients from inherent risks related to their size and weight. Of considerable concern is the risk of injury to staff. Protective measures to protect both patient and staff include those below. Which measure reflects the most safety protection for both patient and staff?
    a. Review back safety precautions and awareness during preincision briefing.
    b. Ensure that the OR bed can accommodate the patient's weight and girth.
    c. Employ at least three safety straps over the patient's largest girth.
    d. Overlap the viscoelastic gel mattress top with three lifting sheets.

    ANS: B
    A special OR bed is required that can accommodate patients who weigh more than 350 lb (159 kg).

    REF: 52

21. Ann Contreras has consulted a noted colorectal surgeon after experiencing episodes of rectal bleeding over the last 2 weeks. She had a screening colonoscopy 5 years ago with several adenomatous polyps and mild diverticular disease. She presents to the endoscopy suite after a successful bowel prep and NPO since midnight. The GI endoscopist is confident that she will find tumor growth in the rectum and decides to employ further diagnostic applications to determine potential for metastasis. Which of the following endoscopic procedures best describes Ann's procedure?
    a. Endoscopic retrograde cholangiopancreatoscopy (ERCP)
    b. Rectal manometry with dilatation
    c. Flexible sigmoidoscopy
    d. Colonoscopy with endoscopic ultrasound (EUS)

    ANS: D
    Colonoscopy is endoscopic examination of the colon from the rectum to the ileocecal valve. The bowel wall is inspected for abnormalities such as bleeding, polyps, inflammation, ulceration, or tumors during both insertion and withdrawal of the colonoscope. EUS combines endoscopy and ultrasound, using sound waves to generate an image of the histologic layers of the esophageal, gastric, and intestinal walls. The frequencies used, higher than those used in traditional ultrasound, provide high-level accuracy of depth of mucosal invasion. EUS is of critical importance in staging GI malignancies and determining surgical options and potential for therapeutic resection.

    REF: 17

22. Michael Mason has suffered from subsacral pain and swelling for 2 weeks and finally was referred to a colorectal surgeon for care. He is currently in the ambulatory surgical center OR bed positioned in the jackknife position. The perioperative nurse has gently but firmly taped his buttocks laterally to the rails of the OR bed to promote exposure to the surgical site. What procedure is Michael prepared to undergo, based on his symptoms and the surgical preparation?

a. Internal hemorrhoidectomy
b. External hemorrhoidectomy
c. Removal of rectal foreign body
d. Pilonidal cystectomy

ANS: D
Excision of a pilonidal cyst and sinus is removal of the cyst with sinus tracts from the intergluteal fold on the posterior surface of the lower sacrum. A pilonidal cyst and sinus, which may be congenital in origin, rarely become symptomatic until the individual reaches adulthood, most commonly in young men. The patient is placed in jackknife position with the buttocks taped open laterally and secured to the sides of the OR bed.

REF: 70

23. Jeannie Donahue is admitted for the fourth time for treatment and management of her pseudomyxoma peritonei, or peritoneal cancer. She is scheduled for open laparotomy for inspection with lymph node surveillance and frozen sections and peritoneal washings for cytologic examination. Her surgical oncologist has recommended a treatment that may slow the growth of the tumor seedings and prolong her life: intraoperative intraperitoneal hyperthermic chemotherapy. Jeannie's perioperative nurse prepares the OR and instructs the new scrub person on chemotherapy safety precautions. For this procedure, it is imperative that the staff:
a. know how to use the chemo spill kit and where it is stored.
b. have the chemotherapeutic solution in the room before the patient arrives.
c. be able to calculate the formula for body weight in kilograms per meters squared in order to comply with the 7 rights of medication administration.
d. wear full personal protective equipment beyond the sterile scrub attire.

ANS: A
Have a chemo spill kit available whenever/wherever chemo is prepared, administered, stored, or disposed. PPE is worn whenever preparing, transferring, spiking, changing, priming, and disposing of chemotherapeutic agents (chemo). Sterile attire provides protective barriers.

REF: 36