Clinical Teaching Unit #2 (CTU #2): Hepatico-pancreatice-biliary

Rotation Description

CTU #2 includes Dr. Jalink (Service Chief – Hepatico-pancreatice-biliary), Dr. Nanji (Hepatico-pancreatice-biliary). This Service provides experience in the care of patients with clinical problems of: the hepatico-pancreatice-biliary system, spleen, adrenal, and some generic general surgery. Objectives for the rotation are listed below.

The General Surgery Resident will rotate through this service several times throughout their training at both the Junior and senior level. The Junior Resident is expected to develop skill in managing and accessing patients with conditions cared for on this service. They should be able to assess presenting problems, establish therapeutic plans and appropriate investigations. They should be able to manage most common post-operative problems and identify complications when they arise. The Senior Resident should gain mastery of the appropriate areas to allow for the competent and appropriate management of patients (including the perioperative care) with conditions of the following systems/presentations;

Medical Expert

Competencies/Objectives

1. Establish and apply knowledge to the clinical, socio-behavioral, and fundamental biomedical sciences relevant to the following general surgical patient populations.
   A. Duodenum
      i. Anatomy
         a. Relationship to surrounding structures, arterial supply, venous and lymphatic drainage.
      ii. Physiology
         a. Duodenal exocrine and endocrine function.
      iii. Clinical Conditions
         a. Neoplasms of the duodenum: benign and malignant
         b. Vascular compression of the duodenum
   B. Liver, Biliary Tree, and Pancreas
      i. Anatomy
         a. Relationships to surrounding structures of the liver, biliary tract, and pancreas
         b. Segmental anatomy of the liver
         c. Normal and common variants of biliary anatomy
         d. Normal and common variants of hepatic arterial supply and venous and lymphatic drainage
         e. Relationship of portal and systemic circulations
         f. Describe the gross anatomic divisions of the pancreas
         g. Arterial supply and venous and lymphatic drainage of the pancreas
         h. Pancreatic ductal anatomy and its variants
      ii. Physiology
         a. Liver blood flow changes with cirrhosis and regeneration
         b. Metabolic functions of the liver (glucose metabolism, coagulation factors, drug metabolism)
c. Bilirubin metabolism: bile production, excretion, and enterohepatic circulation
d. Pancreatic endocrine function
e. Pancreatic exocrine function (ie Secretin-bicarbonate secretion)
f. Biliary hormones (Cholecystokinin)

iii. Clinical conditions
   a. Liver
      1. Infections: viral, bacterial, parasitic
      2. Liver cysts: benign (simple and complex) and malignant
      3. Solid neoplasms: benign and malignant
      4. Portal hypertension
      5. Acute liver failure and indications for liver transplant
   b. Biliary Tract
      1. Stone formation and complications
      2. Biliary obstruction and its complications
      3. Benign inflammatory processes
      4. Choledochal cysts
      5. Neoplasms: benign and malignant
      6. Biliary tract injuries
      7. Motility disorders (GB dyskinesia, SOD)
   c. Pancreas
      1. Pancreatitis: etiologies, local and systemic complications
      2. Cystic lesions: inflammatory, infectious and neoplastic
      3. Solid neoplasms: benign and malignant (including islet cell tumors and associated syndromes/symptoms)

iv. Spleen
   a. Anatomy
      1. Attachments, relationships to surrounding structures
      2. Arterial supply, venous and lymphatic drainage
      3. Locations of accessory splenic tissue
   b. Physiology
      1. Immunologic and hematologic functions
      2. Post-splenectomy alterations in peripheral blood and immune function
   c. Clinical conditions
      1. Splenic abscess and infection
      2. Overwhelming post splenectomy sepsis
      3. Splenomegaly and hypersplenism
      4. Splenic vein thrombosis and left sided portal hypertension
      5. Idiopathic thrombocytopenic purpura
      6. Hemolytic anemias
      7. Cystic lesions of the spleen
      8. Neoplasms: benign and malignant

v. Adrenal
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Rotation Specific Goals and Objectives

a. Anatomy
   1. Boundaries of left and right adrenal glands and their relationship to other structures
   2. Arterial supply and venous and lymphatic drainage
   3. Component zones and their respective functions

b. Physiology
   1. Hormones produced by each zone of the adrenal gland
   2. Regulation of their secretion
   3. Effects of exogenous administration of these hormones on function

c. Clinical Conditions
   1. Cushing’s disease and syndrome
   2. Primary hyperaldosteronism
   3. Catecholamines excess disorders
   4. Adrenal insufficiency
   5. Adrenal suppression
   6. Adrenal hemorrhage
   7. Neoplasms and the adrenal cortex and medulla: benign and malignant

2. Perform a complete and appropriate assessment focused on a patient’s presenting with
   a. HPB issues (includes duodenum)
   b. Splenic issues
   c. Adrenal issues

3. Use preventative and therapeutic interventions effectively

4. Demonstrate proficient and appropriate use of the following diagnostic and procedural skills
   a. Demonstrate effective, appropriate, and timely performance of the following diagnostic procedures
      i. Liver biopsy
      ii. Diagnostic upper GI endoscopy and colonoscopy
      iii. Diagnostic laparoscopy
      iv. Intraoperative cholangiography
      v. Intraoperative biopsy for frozen section
   b. Demonstrate basic skills of minimally invasive surgery
      i. Patient positioning
      ii. Safe access to the peritoneal cavity (Hasson trochar and varies needle)
      iii. Appropriate port site location, trochar insertions, and site closure
      iv. Suture laparoscopically
   c. Expert knowledge (including indications, contraindications, complications and alternatives) and ability to competently perform the following A List procedures
      i. Duodenum
         1. Operative bypass for malignant or benign disease of the duodenum
         2. Management of the difficult duodenal stump
         3. Wedge resection of the duodenum
      ii. Liver, Biliary Tree, and Pancreas
         1. Wedge resection of the liver
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Rotation Specific Goals and Objectives

2. Cholecystectomy  
3. Partial cholecystectomy  
4. Common bile duct exploration for choledocholithiasis  
5. Cholecystectomy and/or CBD Decompression for severe cholangitis  
6. Operative debridement for necrotizing pancreatitis  
7. Pancreatic cystgastrostomy  

iii. Spleen  
1. Splenectomy  
2. Ligation of a splenic artery aneurysm  
3. Operative management of cystic lesions of the spleen  

iv. Endoscopy  
1. Endoscopic polypectomy  
2. Insertion of feeding tubes  

d. Understanding (including indications, contraindications, complications, and alternatives) the following B List procedures and perform these procedures with assistance  
   i. Liver, Biliary Tree, Pancreas  
      1. Simple anatomic and non-anatomic liver resections  
      2. Marsupulization of simple liver cysts  
      3. Management of echinococcal cysts  
      4. Biliary enteric bypass and bile duct repair below portal bifurcation  
      5. Distal pancreatectomy (+/- splenectomy)  
      6. Transduodenal biopsy of the pancreas  
   ii. Spleen  
      1. Partial splenectomy  
   iii. Adrenal  
      1. Adrenalectomy  

e. Describe the principles of the following procedures (including indications for referral, perioperative management, and complications) and participate in these procedure  
   i. Duodenum  
      1. Duodenal resections (includes local resection of ampullary tumors)  
   ii. Liver, Biliary Tree, and Pancreas  
      1. Complex anatomical and non0anatomical liver resections  
      2. Biliary tract bypass/reconstruction above the CHD bifurcation  
      3. Biliary tract resection below CHD bifurcation and reconstruction  
      4. Biliary sphinecetertotomy/sphincteroplasty  
      5. Pancreaticoduodenectomy  
      6. Pancreatic duct drainage procedures  
   iii. Adrenal  
      1. En-bloc resection of adrenal and adjacent structures for invasive malignant lesions of the adrenal gland  
   iv. Endoscopy  
      1. Endoscopic retrograde cholangiopancreatography (ERCP)
Communicator

A. Establishes a therapeutic relationship with the patient and the family or significant support persons recognizing the importance of understanding, trust, respect, empathy and confidentiality.
B. Able to obtain a complete history of the presenting problem including the patients beliefs, concerns and expectations while considering important factors such as age, gender, cultural, spiritual and socio-economic background.
C. Effective listener, allowing the patient to participate in the decision making process.
D. Communicates and cooperates effectively with referring doctors, nurses and allied health care professionals to ensure the best patient care including:
   a. Respecting and considering the opinions of nursing staff
   b. Facilitating medical student input in patient management
E. Demonstrates skill in communicating with others that have different ethno-cultural backgrounds and in communicating with angry and hostile patients and families.

Collaborator

A. Consults effectively with other physicians and health care professionals. Works effectively and harmoniously with the entire health team.
B. Contributes and takes a leadership role in the interdisciplinary team and housestaff team
   a. Includes attending and contributing to multidisciplinary conferences such the GI MCC and Liver MCC
C. Is able to describe the role of all members of the health care team.
D. Brings the same attributes to both the clinical setting as well as the research and quality assurance settings.

Leader

A. Utilizes resources wisely to balance patient care, research and education.
   a. Including day to day time management
   b. Identifying and recording morbidity and mortality
B. Effectively manage health care resources in the work up of hepatobiliary and pancreatic patients.
C. Demonstrates the ability to work effectively and cooperatively in a health care team environment.
   a. Demonstrates ability to appropriately delegate tasks
   b. Demonstrates ability to take charge/lead in critical situations
D. Uses technology to optimize patient care, life long learning and other clinically related activities.
Health Advocate

A. Able to identify important determinants of health affecting patient’s well being.
B. Promote a lifestyle that avoids liver, pancreas, and biliary tract diseases.
C. Contributes effectively to improve the health of patients and communities
D. Responds to situations in which advocacy is appropriate for the patient, the profession and society in general.
   a. Appropriate involving services such as social work and geriatric rehab
E. Understands the role and function of support groups such as Alcoholics Anonymous, the Canadian Liver Foundation, and the Canadian Cancer Society.

Scholar

A. Uses evidenced based practice to ensure optimal and current patient care
B. Facilitates the education of junior residents, medical students and other member of the health care team.
C. Contributes to the development of new knowledge.
D. Develop, implement, and monitor a personal continuing education strategy

Professional

A. Delivers the highest quality care with integrity, honesty and compassion.
B. Interact with hepatobiliary/pancreatic patients, families, nurses and other health care personnel in a professional manner with appropriate attitudes and provide care in an ethical manner.
C. Exhibits appropriate personal and interpersonal professional behavior.
   a. Timeliness (on time for clinics, ORs, rounding, etc)
   b. Accountability (ie answers pages)
   c. Honesty (ie. Medical error disclosure)
D. Strive to balance personal and professional roles and responsibilities, and to demonstrate ways to resolve conflicts in these areas.
E. Practices medicine with the ethical consistency and obligation of a Medical Professional.