Kurzzusammenfassung: Acute gastrointestinal (GI) bleeding is one of the common causes of life threatening condition with a mortality ranging between 19 and 40%. It is categorized as upper- and lower GI bleeding by the anatomic landmark of the ligament of Treitz. Causes of upper GI bleeding include peptic ulcer disease, cancer esophageal varices due to liver cirrhosis, etc, while those of lower GI bleeding include diverticular disease, vascular disorder, inflammatory bowel disease, cancer, etc. Most of GI bleeding, especially the upper GI bleeding is diagnosed and treated by endoscopy, however, etiology of the bleeding remains uncertain in some cases after standard upper and lower endoscopy, which is defined as obscure gastrointestinal bleeding (OGIB). There are several tools for OGIB to diagnose site and cause of the bleeding and to help choice of management option including capsule endoscopy, small bowel endoscopy, Tagged RBC scintigraphy, MDCT, and angiography, each with its strengths and weaknesses. Among them, MDCT is a rapid and noninvasive technique which allows excellent visualization of the whole gastrointestinal tracts, as well as, the extra-intestinal organs and tissues with its high resolution images with multiplanar and angiographic capabilities. In this lecture, general knowledge and diagnostic approach of GI bleeding are reviewed with a special emphasis on MDCT.

Lernziele: 1. To know causes and the classification of GI bleeding  
2. To recognize the diagnostic approach for GI bleeding  
3. To learn technique, characteristics (strengths and weaknesses) and imaging finding of various diagnostic tools in the diagnosis of GI bleeding with an emphasis on MDCT.
Kurzzusammenfassung: Acute abdominal pain may be caused by several disorders varying in the range from life-threatening conditions to benign self-limiting disorders. Acute appendicitis, diverticulitis, cholecystitis, and bowel obstruction are common causes of acute abdominal pain. Plain film radiography, ultrasonography (US), computed tomography (CT) and, rarely magnetic resonance imaging (MRI) can be used in the diagnosis of acute abdominal pain.

Initial imaging technique performed on patients presenting to emergency department (ED) with acute abdominal pain is plain film radiography. Presence and level of bowel obstruction and perforated viscus can be evaluated with plain film radiography. Ultrasonography is a real-time dynamic examination that can reveal the parenchymal abnormalities and presence or absence of peristalsis in bowels. Acute cholecystitis and acute appendicitis present with characteristic sonographic features which usually make further imaging studies unnecessary. CT is a decision-making imaging technique in acute abdominal pain. Contrast-enhanced CT facilitates an accurate diagnosis in urgent conditions with resultant reduction in complication rates. CT is mostly helpful in bowel, mesentery, mesenteric vasculature related and retroperitoneal emergencies compared to US. Increased utility of CT in acute abdomen results in increased ionizing radiation exposure to patients which necessitates determination of appropriate abdominal CT protocols. Dual energy CT is being more frequently used in abdominal emergencies such as in bowel ischemia. Ability of generation virtual unenhanced CT images makes dual energy CT a promising low-dose CT technique with a potential of utility in different clinical applications. MRI can be used in certain circumstances when utilization of ionizing radiation or iodinated contrast agent should be avoided in patients. Pregnant patients and children can undergo MRI whether US is not suggestive of a prompt diagnosis in acute abdomen.

In this presentation, appropriate utility and role of imaging techniques in acute abdominal pain will be discussed. Imaging findings of bowel emergencies, acute appendicitis and cholecystitis, acute pancreatitis, liver and biliary emergencies, emergency conditions of peritoneum, mesentery, retroperitoneum and urinary system will be summarized.

Lernziele:
1. Utility of imaging techniques in abdominal emergencies
2. Appropriate protocols for abdominal CT examinations performed in patients presenting with acute abdominal pain
3. Imaging features of acute abdominal emergencies