

Differential Diagnosis for Abdominal Mass or Distension

Abdominal Distension Causes	Abercrombie	Collins	Gomella	Rattery	Total	Collected
Cancer (ovary, pancreas, kidney, stomach, colon, liver)	x		x	x	3	14
Small bowel obstruction	x	x	x		3	
Bladder distension	x	x	x		3	1
Ovarian cyst	x	x	x		3	1
Large bowel obstruction	x		x	x	3	
Abdominal trauma	x	x			2	
Cirrhosis	x	x			2	2
Heart failure	x	x			2	
Ascites	x		x		2	1
Peritonitis	x	x			2	1
Polycystic kidney			x	x	2	1
Hydronephrosis	x			x	2	
Irritable bowel syndrome	x				1	
Mesenteric artery occlusion (acute)	x				1	
Paralytic ileus	x				1	
Toxic megacolon (acute)	x				1	
Perinephric abscess				x	1	
Lymphadenopathy				x	1	
Aortic aneurysm			x		1	3
Pregnancy			x		1	
Inflammatory mass			x		1	1
Hepatic vein thrombosis		x			1	
Nephritis, nephrosis		x			1	
Pancreatic cyst	x	x			1	
Mesenteric thrombosis		x			1	
Ruptured ectopic pregnancy		x			1	
Congenital megacolon		x			1	
Gastric dilatation		x			1	1
Fibroma of the ovary		x			1	
Hepatomegaly	x				1	
Splenomegaly	x				1	
Crohn disease	x				1	
Uterine leiomyoma	x				1	1
Diverticulitis	x				1	
Volvulus	x				1	
Hernia						6
Post-operative scarring						1
Muscle tear						1

Ruptured gallbladder						1
Rib (severe kyphosis)						1

Comment: I combined listings for masses and distension since large masses tend to cause distension and there is considerable overlap between the two lists. If there is a focal mass the differential diagnosis tends to be much more limited (basically to anatomic entities in the quadrant/area).

REFERENCES

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Differential Diagnosis for Abdominal Mass or Distension with Clinical and Imaging Findings

Cause	Clinical Features	Imaging Findings
(Lung Bases)		
(Musculoskeletal Structures)		
Liver		
Hepatomegaly	Features of associated diseases such as cirrhosis or congestive heart failure. RUQ pain secondary to capsular distension.	Enlarged liver; heterogeneous liver with multiple masses (from metastases), cysts (from polycystic liver disease) or nodules (from regeneration with cirrhosis). Associated dilated collateral veins, reversed flow within the portal vein (on Doppler US), dilated para-umbilical veins.
Spleen		
Splenomegaly	LUQ pain from capsule distension.	Enlarged spleen; associated lymphadenopathy if splenomegaly is from lymphoma.
(Gallbladder)		
(Hepatobiliary Tree)		
Pancreas		
Pancreas enlargement (pseudocyst, cancer)	Central abdominal pain; weight loss with pancreatic cancer; history of alcohol abuse, gallstone disease, or cystic fibrosis.	Mass associated with the pancreas with pancreas duct distension and atrophy upstream from the mass; low density lesions adjacent to the pancreas with pseudocysts.
Kidneys		
Renal enlargement (polycystic kidney, cancer)	Flank pain; abnormal urinalysis.	Multiple variably sized macrocysts replacing renal parenchyma in polycystic disease; renal mass with renal cancer.
Hydronephrosis	Flank distension, colicky intermittent flank pain; abnormal urinalysis.	Dilated renal collecting system; CT: delayed appearance of contrast in the collecting system.
(Adrenals)		
Vasculature		
Aortic aneurysm	Pulsatile mid-abdominal lesion.	Enlarged aorta.
Lymphatics/Retroperitoneum		
Lymphadenopathy	Known primary tumor; features of systemic illness (fever, weight loss).	One or more enlarged lymph nodes, with or without central necrosis.
Bowel		
Hernia	Focal mass/pain; abdominal distension and generalized pain if	Defect in abdominal wall with transient or trapped bowel loops; CT: abnormal

	obstructive; may be reducible.	configuration of bowel with internal hernia .
Bowel (small or large bowel obstruction, ileus)	Nausea, vomiting, abdominal pain, diarrhea around an obstruction versus constipation, anorexia, other features related to cause of obstruction. Prior history of surgery (adhesions) versus hernia (groin, umbilicus, surgical site).	Dilated bowel loops; look for transition point to determine mass, abscess, hernia, or nearby surgery (with presumed adhesion).
GI Tract malignancy (stomach, colon)	Anorexia, nausea, vomiting, hematochezia, melena, weight loss.	Focal wall thickening or bulky mass of the organ.
Peritoneal Cavity		
Ascites	Associated features of cause (cirrhosis, congestive heart failure, intra-abdominal malignancy). Fluid wave, shifting dullness, and/or puddle sign.	Fluid interspersed amongst bowel loops usually first in the pelvis and then more diffusely in the abdomen. Associated pleural effusions.
Malignancy (peritoneal implants)	Known primary tumor (usually ovary).	Usually ascites separating solid masses spread through the peritoneal cavity.
Pneumoperitoneum	Abrupt onset of pain from perforated viscus.	Air within the peritoneal cavity.
Pus from peritonitis	Pain from peritonitis; elevated WBC and inflammatory markers.	Fluid and possibly air between bowel loops.
Abdominal Wall		
Hernia	Focal mass/pain; abdominal distension and generalized pain if obstructive; may be reducible.	Defect in abdominal wall with transient or trapped bowel loops; CT: abnormal configuration of bowel with internal hernia.
Pelvis		
Bladder	Fullness in the pelvis; associated enlarged prostate gland on digital rectal exam.	Dilated bladder; possible associated causative mass of the prostate or low pelvis.
Ovary (cancer, cyst)	Lower abdominal pain and fullness; family history of ovarian cancer.	Large cyst or complex mass arising from the pelvis; associated ascites and peritoneal soft tissue masses with peritoneal metastases.
Intraperitoneal Fluid or Mass		
ABBREVIATIONS		
CT = computed tomography; LUQ = left upper quadrant; RUQ = right upper quadrant; US = ultrasound; WBC = white blood cell count		