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| **Disease** | **Description** |
| **Celiac****Disease** | Autoimmune reaction against **gluten**(**anti-gliadin, anti-endomysial, anti-tissue transglutaminase**)Assoc. w/ HLA-DQ2/8, European descentMalabsorption, steatorrhea, mainly of duodenum**Villous atrophy, crypt hyperplasia, intraepithelial lymphocytosis**D-xylose: passively absorbed, decr. w/ mucosal defectsIncr. risk of T-cell lymphoma**Dermatitis herpetiformis**: grouped vesicles/papules on elbowsTreat w/ gluten-free diet |
| **Lactose****intolerance** | Lactase deficiency, causes **osmotic diarrhea****Normal villi**, except when 2O to villous injury (virus)**Hydrogen breath test**: incr. hydrogen after lactose intake |
| **Tropical****Sprue** | Similar to celiac disease, **responds to antibiotics**Megaloblastic anemia (B9/B12 deficiency) |
| **Whipple****Disease** | **Tropheryma whipplei** infection (intracellular, Gram +)**PAS + foamy macrophages in lamina propria**Cardiac, joint, and neuro symptoms |
| **Meckel****Diverticulum** | Persistence of **vitelline duct** (true diverticulum), most common anomaly**Ectopic gastric/pancreatic tissue** (use pertechnetate study)Causes melena, RLQ pain, intussusception, volvulus, obstruction |
| **Appendicitis** | **Acute inflammation**, due to fecalith or lymphoid hyperplasiaPsoas/obturator/Rovsing signs, guarding, rebound tendernessTreat w/ appendectomy before rupture and peritonitis |
| **Ileus** | **Hypomotility w/o obstruction**, constipation, decr. flatus, tympanic abdomenSurgery, opiates, hypokalemia, sepsisTreat w/ bowel rest, electrolytes, cholinergic drugs |
| **Intestinal****Ischemia** | **Acute**: intestinal flow blockage, bowel necrosis, **pain out of proportion, currant jelly stools****Chronic**: **atherosclerosis of arteries**, hypoperfusion, postprandial epigastric pain**Colonic**: abdominal pain, hematochezia, **watershed areas**, affects elderly |

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| **Disease** | **Description** |
| **Annular pancreas** | Ventral pancreatic bud encircles 2nd part of duodenumCauses **duodenal narrowing**, **nonbilious vomiting** |
| **Pancreas divisum** | Failure of ventral/dorsal bud fusionUsually asymptomaticCan cause **abdominal pain, pancreatitis**(majority of pancreas drains through accessory pancreatic duct) |
| **Tracheoesophageal anomalies** | Most common: **esophageal atresia w/ distal tracheoesophageal fistula****Polyhydramnios** (cannot swallow amniotic fluid)**Laryngospasm** (avoid reflux aspiration), causes cyanosisUnable to pass NG tube into stomach |
| **Duodenal atresia** | **Failure to recanalize duodenum****Bilious** vomiting**Double bubble sign**: stomach/duodenum dilation visible on XRAssoc. w/ **Down syndrome** |
| **Jejunal/ileal atresia** | **Mesenteric vessel disruption**, leads to necrosisIntestinal segment resorption**Ileum forms apple peel** |
| **Hypertrophic pyloric stenosis** | **Most common gastric outlet obstruction**Palpable **olive mass** in epigastric region**Nonbilious** vomiting (blockage is before duodenum)Assoc. w/ firstborn males, macrolide exposure**Causes hypokalemic hypochloremic metabolic alkalosis**Treat w/ pyloromyotomy |
| **Meconium ileus** | **Cystic fibrosis**, plug obstructs intestines, no stool passage at birth |
| **Hirschprung disease** | **Lack of enteric nervous plexuses** (neural crest migration failure)Congenital m**egacolon** w/ abdominal distention, **no meconium**Proximal portion dilated, aganglionic segment constrictedDiagnose w/ **rectal suction biopsy**, treat w/ resection |
| **Necrotizing enterocolitis** | **Intestinal mucosa necrosis**Seen in premature formula fed infants, immature immune system**Perforation**: free air in abdomen, portal venous gas |

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| **Disease** | **Description** |
| **Crohn****Disease** | Skip lesions, **spares rectum**, most often **affects ileum****Transmural inflammation**, cobblestone mucosa, creeping fat**String sign** on XR (strictures, ulcers, fissures)**Noncaseating granulomas**, lymphoid aggregatesMalabsorption, colon cancer, fistulas, **perianal disease****Kidney stones, gallstones**, rash, oral ulcers, arthritisTreat w/ steroids, azathioprine, antibiotics, infliximab, adalimumab |
| **Ulcerative****Colitis** | **Continuous lesions, always involves rectum****(Sub)mucosal inflammation**, pseudopolyps**Lead pipe sign** on XR (loss of haustra)**Crypt abscesses**, ulcers, no granulomasMalabsorption, colon cancer, **toxic megacolon**, perforation**1O sclerosing cholangitis**, rash, oral ulcers, arthritisTreat w/ 5-ASA, 6-mercaptopurine, infliximab, colectomy |
| **Irritable Bowel****Syndrome** | Recurrent abdominal pain w/:Pain improves w/ defecation, changes in freq., changes in appearance**No structural abnormalities**Diarrhea/constipation predominant or mixed |
| **Diverticulosis** | False diverticula in colon, usually sigmoid**Incr. intraluminal pressure**, focal weakness at **vasa recta perforation****Painless hematochezia**, diverticulitis |
| **Diverticulitis** | **Inflamed microperforations** of diverticula**LLQ pain** (mimic appendicitis), fever, leukocytosisCauses abscess, fistula, obstruction, perforationTreat w/ antibiotics, drainage, surgery |
| **Angiodysplasia** | **Deformed vessels**, hematochezia, diagnose w/ angiography |
| **Colonic****Polyps** | **Hyperplastic**: nonneoplastic, located in rectosigmoid area**Hamartomatous**: normal tissue w/ **distorted architecture**, solitary lesions usually nonneoplastic**Adenomatous**: neoplastic, mutations in APC/KRAS, **tubular less malignant than villous****Serrated**: premalignant, CpG hypermethylation, BRAF mutations, **sawtooth pattern** of crypts |
| **FAP** | **APC mutation** (5q)Thousands of polyps, pan colonic, always involves rectumRequires **prophylactic colectomy****Gardner**: FAP, osseous/soft tissue tumors, retinal pigment hypertrophy, extra teeth**Turcot**: FAP, malignant CNS tumor |
| **Peutz-Jeghers** | **GI tract hamartomas****Hyperpigmented** mouth, lips, hands genitaliaIncr. risk breast, GI cancers |
| **Juvenile****Polyposis** | Childhood syndrome**Numerous GI hamartomatous polyps**Incr. risk of colon cancer |
| **Lynch****Syndrome** | **DNA mismatch repair gene mutations**, causes microsatellite instability**Proximal colon always involved**, causes endometrial, ovarian, skin cancers |
| **Colorectal****Cancer** | Mutation pathway: APC, KRAS, p53/DCC**Ascending**: exophytic mass, bleeding, anemia, weight loss, fatigue, pallor**Descending**: infiltrating mass, obstruction, colicky pain, hematocheziaScreen w/ colonoscopy, flexible sigmoidoscopy, fecal occult blood test, or fecal DNA test**Apple core lesion on XR**CEA tumor marker: used for monitoring recurrence, not good for screening |

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| **Disease** | **Description** |
| **Omphalocele** | Persistent midgut **umbilical herniation**Protruded contents, **sealed by peritoneum** |
| **Gastroschisis** | Extruded abdominal contents**Not covered by peritoneum** |
| **Malrotation** | **Abnormal midgut rotation**, improper bowel position**Ladd bands**: fibrous bands between organsVolvulus, duodenal obstruction |
| **Volvulus** | **Twisting of bowel around its mesentery**Obstruction and infarctionMidgut (infants/children), sigmoid (elderly) |
| **Intussusception** | **Telescoping of proximal into distal segment** (ileocecal junction)Compromises blood supply, causes **currant jelly stools**Idiopathic, tumor, viral infection**Bullseye appearance on ultrasound** |