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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 descent  Malabsorption, steatorrhea, mainly of duodenum  **Villous atrophy, crypt hyperplasia, intraepithelial lymphocytosis**  D-xylose: passively absorbed, decr. w/ mucosal defects  Incr. risk of T-cell lymphoma  **Dermatitis herpetiformis**: grouped vesicles/papules on elbows  Treat 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 hyperplasia  Psoas/obturator/Rovsing signs, guarding, rebound tenderness  Treat w/ appendectomy before rupture and peritonitis |
| **Ileus** | **Hypomotility w/o obstruction**, constipation, decr. flatus, tympanic abdomen  Surgery, opiates, hypokalemia, sepsis  Treat 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 duodenum  Causes **duodenal narrowing**, **nonbilious vomiting** |
| **Pancreas divisum** | Failure of ventral/dorsal bud fusion  Usually asymptomatic  Can 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 cyanosis  Unable to pass NG tube into stomach |
| **Duodenal atresia** | **Failure to recanalize duodenum**  **Bilious** vomiting  **Double bubble sign**: stomach/duodenum dilation visible on XR  Assoc. w/ **Down syndrome** |
| **Jejunal/ileal atresia** | **Mesenteric vessel disruption**, leads to necrosis  Intestinal 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 constricted  Diagnose 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 aggregates  Malabsorption, colon cancer, fistulas, **perianal disease**  **Kidney stones, gallstones**, rash, oral ulcers, arthritis  Treat 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 granulomas  Malabsorption, colon cancer, **toxic megacolon**, perforation  **1O sclerosing cholangitis**, rash, oral ulcers, arthritis  Treat 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, leukocytosis  Causes abscess, fistula, obstruction, perforation  Treat 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 rectum  Requires **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 genitalia  Incr. 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, hematochezia  Screen 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 organs  Volvulus, duodenal obstruction |
| **Volvulus** | **Twisting of bowel around its mesentery**  Obstruction and infarction  Midgut (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** |