# XVIII. Diseases of Liver, G. Bladder, Pancreas & Peritoneum

## Peritoneum

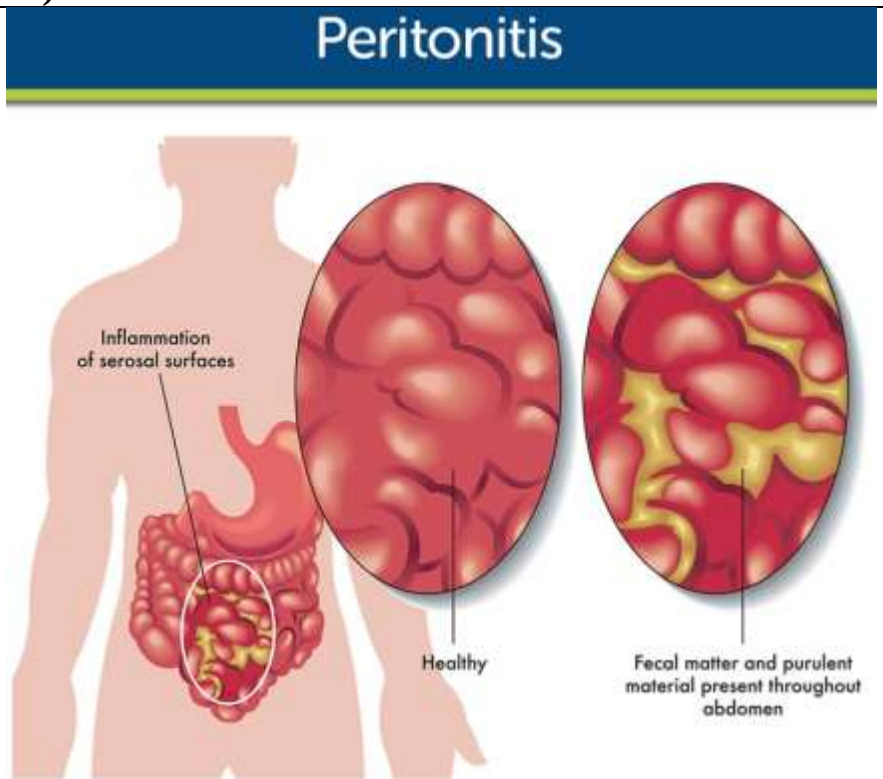
### Acute Peritonitis

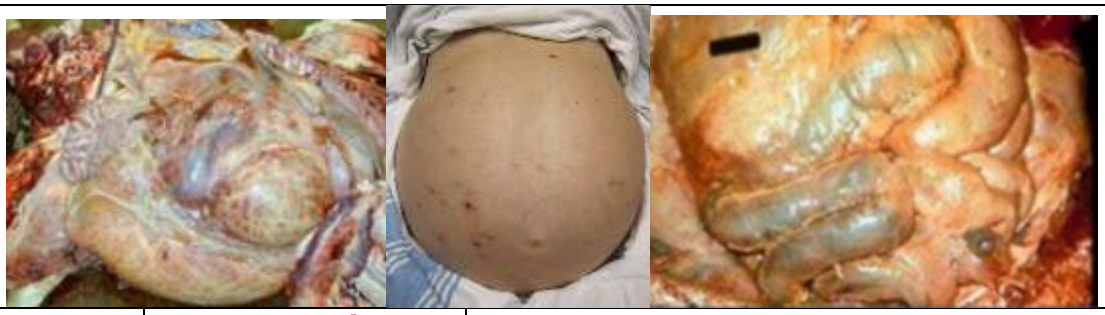
| | |
|---|---|
| ***A piece of omentum:*** | • ***Is adherent to abdominal visceral organs***<br>• ***Swollen and oedematous***<br>• ***Congested***<br>• ***Contains thick exudate :***<br>  ○ ***Inflammatory***<br>  ○ ***Fibrino-purulent***<br>• ***Appears dull and rather opaque*** |

**N.B.I:**

***Acute diffuse peritonitis***

- ***Acute diffuse peritonitis is usually due to bacterial infection which may be a mixed one (polymicrobic).***
- ***Occasionally, it is due to non-bacterial irritant materials such as***
  1. ***A foreign body (talcum powder or surgical materials used at operation),***
  2. ***Effusion of bile (from obstruction then perforation and rupture of bile ducts),***
  3. ***Fluid from a ruptured cyst (ovarian cyst) and***
  4. ***Escape of blood (rupture of spleen, of tubal pregnancy or of intra-abdominal aneurism).***





| | | |
|---|---|---|
| ***The bacteria:*** | ***Bacillus coli →:*** | • ***Abundant thick exudate.***<br>• ***Fibrinous, fibrinopurulent or purulent***<br>• ***With faecal odour.*** |
| | ***Streptococcus →:*** | • ***Thin exudate.***<br>• ***Serous or sero-purulent (with only slight fibrin).*** |
| | ***Staphylococcus →:*** | • ***Yellowish-pussy exudate.*** |
| | ***Pneumococcus →:*** | • ***Watery.'***<br>• ***With fibrin or fibrinopurulent exudate.*** |
| | ***Gonococcus →:*** | • ***Exudate + fibrosis.***<br>• ***Localized to pelvis (usually).*** |
| | ***B. Pyocyaneous →:*** | • ***Creamy greenish-yellow exudate.*** |
| | ***Anaerobic bacilli & Clostridium welchii :*** | • ***Watery exudate with blood (mainly).*** |


***Routes of infection:***

1. ***Exterior (penetrating wounds or post-operative).***
2. ***Internal genitalia (puerperal sepsis, acute-and-gonococcal salpingitis and pneumococcal infections).***
3. ***Alimentary tract (rupture or infection) : Stomach →peptic ulcer and carcinoma; duodenum → peptic ulcer; intestines →typhoid ulcers, tumours, strangulated hernia, volvulus and intussusception; thrombosis of vessels → infarction and gangrene; vermiform***
4. ***Appendix → appendicitis.***
5. ***Internal organs: Liver (abscesses); pancreas (pancreatitis); kidneys (suppuration and pyonephrosis).***
6. ***Blood stream (in pneumococcal peritonitis).***

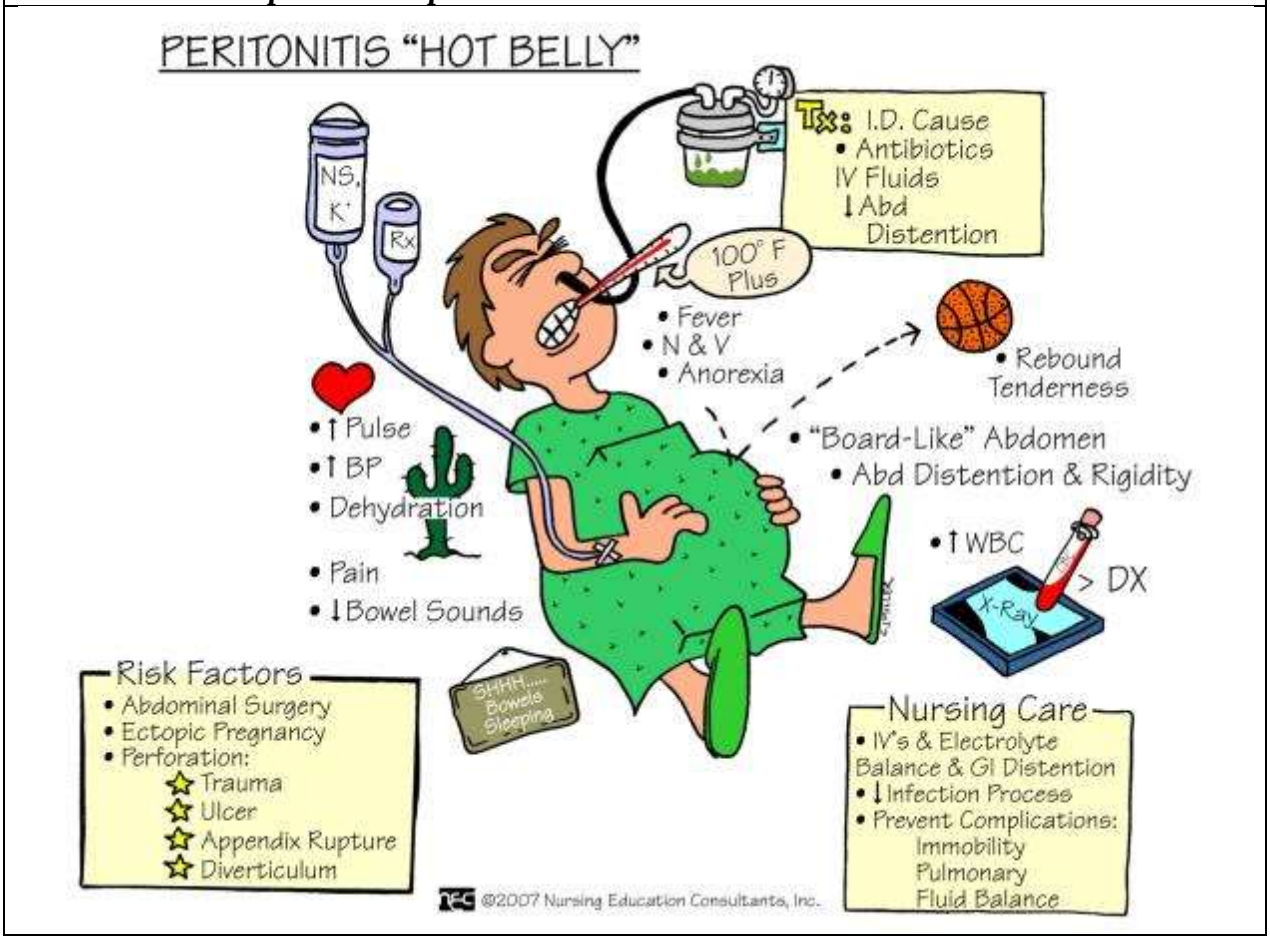
# Common causes of peritonitis.

| Severity | Cause | Mortality Rate |
|---|---|---|
| Mild | Appendicitis<br>Perforated gastroduodenal ulcers<br>Acute salpingitis | <10% |
| Moderate | Diverticulitis (localized perforations)<br>Nonvascular small bowel perforation<br>Gangrenous cholecystitis | <20% |
| Severe | Multiple trauma<br>Large bowel perforations<br>Ischemic small bowel injuries<br>Acute necrotizing pancreatitis<br>Postoperative complications | 20-80% |

| ***Sequence of events (in the peritoneum)*** | |
|---|---|
| ***1. At first:*** | ***Pink and congested → "the hyperaemic stage".*** |
| ***2. Then:*** | ***Dull and covered by a layer of fibrin.***<br>***Contains an inflammatory fluid → "the exudative stage".***<br>***Coils of intestines are stuck together → matted and sticky.*** |
| ***3. Lastly :*** | ***Exudate (localized or generalized) →fibrous adhesions → the plastic stage".*** |

***4. Fate:***

1. ***Resolution, chronicity or death.***
2. ***Fibrosis and localization by adhesions or spread of infection.***
3. ***Thrombosis of mesenteric veins and gangrene.***
4. ***Intestinal obstruction → paralytic ileus.***
5. ***Toxic absorption and septicaemia.***



**N.B.2:**

- *The association of*
  - ***Abdominal pain with tenderness and rigidity*** *(of any part of the abdomen) as well as*
  - ***Vomiting*** *and a*
  - *Steady* ***rise in the pulse-rate****, rather than the*
  - *Characteristic* ***pale,***
  - ***Sick*** *and*
  - ***Collapsed*** *appearance of a patient,*
- *Indicates a primary disease in one of the intra-abdominal visceral organs with a secondary peritoneal inflammation.*
- *Surgical interference indication and treatment) depends much upon detecting the exact underlying pathological lesion.*

***Peritonitis can occur even without rupture of the inflamed viscus***

- *(Vermiform appendix, gall bladder etc...) Because the bacteria (B. coli, enterococci ... etc.) can permeate the wall.*
- *However, the condition becomes more marked with* ***perforation or rupture of any ulcerative*** *(or gangrenous) lesion in the digestive organs in the abdomen (peptic ulcerations, intestinal ulcerations, abscesses and ulcerating tumours).*

***It may follow marked irritation produced by escape of blood****, bile or pancreatic enzymes.*

***Peritonitis, as such, has to be differentiated from:***

1. ***Pleurisy and pneumonia.***
2. ***Chronic intestinal obstruction.***
3. ***Simple colic (intestinal, biliary or renal).***
4. ***Infectious diseases and fevers (malaria, influenza etc.).***
5. ***Uremia.***
6. ***Abdominal crisis of tabes dorsalis.***
7. ***Tuberculosis of dorso-lumbar vertebrae (spinal caries).***