

**Disease of the biliary system:**

Cases of biliary tract disease with clinical manifestations are uncommon. Occasional cases of cholangitis occur in cattle and horses ,associated clinical signs include:

- ❖ fever,
- ❖ Pain over the liver,
- ❖ Jaundice,
- ❖ Photosensitization,

There is usually an accompanying leukocytosis and a left shift.

- In horses a sequel to cholangitis may be a diffuse bacterial hepatitis with signs of hepatic insufficiency.

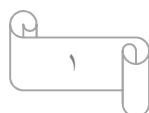
-Concretions in the biliary system of cattle are usually a sequela to fascioliasis.

- ❖ Mild cases show anorexia and pain over the liver.
- ❖ Severe cases show recurrent attacks of severe abdominal pain, alimentary tract stasis, and pain on percussion over the liver.
- ❖ Jaundice occurs only in the terminal stages of fatal cases and is accompanied by recumbency depression, and coma.
- ❖ The frequency of pigmented gallstones is high in sheep and associated with high total bilirubin concentration in the bile.
- ❖ Other causes of biliary tract disease include gallbladder empyema and a bile duct carcinoma.
- ❖ In the latter case there was severe loss of body weight and signs referable to metastases in other organs, but there were no clinical or postmortem signs of biliary malfunction.

**-Biliary atresia in young foals :-** is manifested by an early period of normality for 2-3 weeks after birth followed by the development of

- ✓ listlessness,
- ✓ anorexia,
- ✓ the passage of gray, pasty feces and
- ✓ jaundice.
- ✓ Death occurs about a week later.

■



- **Obstructive cholelithiasis in horses** may cause
  - ✓ Mild intermittent colic or continuous pain
  - ✓ jaundice
  - ✓ fever,
  - ✓ icterus
  - ✓ weight loss.

### Laboratory findings included

- ✓ leukocytosis,
- ✓ hyperproteinemia,
- ✓ hyperfibrinogenemia.
- ✓ Elevated of Gamma-glutamyl transferase (**GGT**) and lactate dehydrogenase enzyme (LDH) .

### Diseases of the Pancreas

Pancreatic disease in large animals is extremely rare

- **Diabetes mellitus**

Lesions of the pancreas resulting in diabetes mellitus, which is characterized by a lack of adequate pancreatic insulin secretion, has been described in in cows and horses and donkeys.

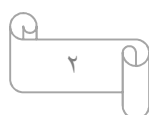
The disease is most likely to occur in old horses and may be caused by:

- 1- Pancreatic injury related to migration of *strongyle* larvae.
- 2- Resulting from pancreatic beta -cell failure is rare in the horse but has been reported in a domesticated Spanish Mustang.

The clinical syndrome includes:

- ✓ Weight loss,
- ✓ Polydipsia,
- ✓ Polyuria,
- ✓ Intense hyperlipidemia and
- ✓ High blood levels of cholesterol, triglycerides and glucose.

In cows : There is afebrile emaciation, polydipsia, ketonuria, glucosuria and hyperglycemia.



- **Pancreatic Adenocarcinoma**

The pancreatic duct of the horse is anatomically close to the common bile duct and it is expected that a tumor mass cause a syndrome of biliary duct pathology, although absence of jaundice at some stages of the disease. There is emaciation, concomitant moderate abdominal pain and variable fecal texture up to diarrhea. GGT and blood ammonia levels are greatly increased.

- **Pancreatic adenoma**

Convulsions due to hypoglycemia have been recorded in a pony with a pancreatic adenoma. It is assumed that the hypoglycemia resulted from hyperinsulinism generated by the beta-cell adenoma.

- **Pancreatitis**

Generally is inflammation of the pancreas – the organ that secretes enzymes into the intestine to digest food and that makes insulin to control blood sugar (glucose) as well as a few other hormones. Pancreatic enzymes are not normally activated until they reach the intestine because they start to digest whatever they come in contact with. If they are activated inside the pancreas, they digest the tissue around them causing inflammation and swelling (pancreatitis).

Pancreatitis is rare in farm animals.

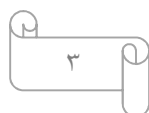
**In cattle** are detected post mortem but are rarely diagnosed clinically because of a lack of clinical and laboratory findings.

**In dogs**, occurs suddenly after ingestion of something outside of their regular diet – especially foods high in fat (acute pancreatitis). Chronic pancreatitis refers to a long-term problem.

**In cats** pancreatitis tends to be mild and chronic and secondary to an attack by the immune system.

**Diagnosis:** Diagnostic tests include

- ✓ blood tests to look for other possible causes for the clinical signs, and to evaluate the blood levels of the pancreatic enzymes that may be increased in pancreatitis.



- ✓ Abdominal ultrasound or X-rays can also be very helpful to identify abnormal changes in the pancreas as well as to look for other problems that can cause similar signs or blood-test abnormalities, such as an intestinal obstruction, kidney failure or liver failure.

## Treatment

Mainly consists of supportive therapy until the inflammation resolves. **In mild cases**, withholding food and administering anti-nausea medication may be all that is required.

**In more severe cases**, dogs may need to be hospitalized to receive intravenous fluids to correct dehydration, electrolyte supplementation and medications to control vomiting and pain.

