TREMATODOSIS

Study Program Vet. Medicine
2018
LIVESTOCK FASCIOLOYSIS
TREMADATODOSIS

FASCIOLOSIS = DISTOMATOSIS = LIVER FLUKE
DISEASE = LIVER ROT

CAUSA:
- *Fasciola gigantica*
- *Fasciola hepatica*

SENSITIVE ANIMALS:
goats, sheeps, cattles, buffaloes, elephants, horses, pigs, dogs, cats, rabbits, rats, humans
HABITATS: bile ducts, it can find out from pulmo and under the skin layer (humans and horses)

CHARACTERISTICS OF THE AGENT AND IMMUNITY:

- The mature worms ingest the liver tissues and the blood of the definitive host.
- The hemolysin and the residue of metabolisms were absorbed with the definitive host → ANEMIA
- From the cuticle its will irritations the mucosae → GALL STONE
FINANCIAL LOSS

1. Death
2. Decrease of productivity
3. Selling price go down

TRANSMISSION OF a DISEASE:

- Ingest of metacercaria
- Intermediate host: *Lymnea rubigenosa* = *L. javanica*
FACTORS WHICH INFLUENCE AGAINST SENSITIVITY ANIMALS of Fasciola sp. INFECTIONS

Intrinsic factors depends on:
1. Animals species
2. Ages of animals
3. Conditions of animals

Extrinsic factors depends on:
1. The doses of infections
2. The technique of rearing
3. The influences of feed
4. The influences with an other parasite infections
5. The influences of specific drugs
PATHOGENESIS : depends on the infections

- ACUTE:
  The contamination occurs suddenly.
  Parenchym of liver become a serious damaged
  → bleeding of the cavum peritoneum
  Suddenly death (quickly/many days).
SUB ACUTE: similar with acute, the times more longer
CHRONICS: the contamination occurs step by step, and the numbers of parasites which contaminated were not too much
CLINICAL SYMPTOMPS:

ACUTE:

Death occurs suddenly, often follow with secondary infections of *Clostridium novyi* → **BLACK DISEASE** → death cause

Occurs weakness, anorexia, pale and mucosae oedema (conjunctiva).

Pressure pain of the right part of the gastrium

Occurs death less than 24 hrs → follow with outcome of the purulent exudate + blood from nose and anal
SUB ACUTE:
Similar with acute, the periods much longer, the route of a diseases take 2 weeks, follow by loss of body weight.

CHRONICS:
The route of a diseases much longer.
Oedema sub mandibula = bottle jaw, anemia, weakness, icterus, diarrhea. Suddenly death, 2 - 3 months after infections. Occurs emaciation if the animals were survive. Decrease productivity. Occurs hydrothorax, hydropericard and ascites
THE CHANGE of Post mortem:

Macroscopic:

Hydremia, ascites, hydrothorax, hydropericard, anemia, icterus and weakness.

Animals, occurs liver: abscess, become hard, fragile, bile duct become thick.
TREATMENTS:

- Hexachloropene: *p.o.* 15 mgs/kgBW
  Efective for mature worm
  for young worm (4 wks) → 40 mgs/kgBW

- Dovenix (Nitroxinil): 7 mls/tail

- Triclabendazole: 5 mgs/50 kgBW
Diagnose:

- Follow the clinical symptom
- Microscopical fecal examinations
- *Antigen diagnostic Fasciola*, intradermal 0.2 mls → skin become thickness 15 mm, its mean → fasciolosis positive

*) serologic diagnosis, progress under the circumstances → ELISA
PREVENTION AND ELIMINATION:

- Routine microscopical fecal examinations every 2-3 months

- Preventive for water snails, entering the farm → drain and surroundings the farm areas → *molluscida*

- Elimination water snails → Natrium pentachlorpenenate : 9 kgs/3600 l water → spray surroundings the savana.
Eurytrema pancreaticum

- **PRE DILECTION OF MATURE WORMS:** pancreatic duct, bile duct, and duodenum

- Sensitive animals: goats, sheeps, cattles, buffaloes, and other ruminants

- **ROUTE OF TRANSMISSION:** ingest of grass hopper, consists of metacercariae

- Intermediate host:
  1. Soil Snail → Family Fruiticoilidae
  2. Grasshopper
PATHOGENESIS:
Mild infection → inflammation catharralis = mucosae infection and damaged of epithel bile ducts
Penetration of eggs → focci inflammatory (center of inflammation has an infection),

Fibrosis occasionally → pancreas athropy
Heavy infection: Weakness
Palpation → pancreas become hard, occasionally soft and abscess
PREVENTION & TREATMENT : never knows
PREVENTION AND ELIMINATION:

Animals treatments:
- Hexachlorethane – Bentonite, Cattle: 180 grs/tails
- Bithionol, doses 25-35 mgs/kg BW
- Hexachlorophene, doses 10 mgs/kg BW
- Yomesan, doses 75 mgs/kg BW

✔️ Using *mollusceda* in savana
✔️ Make dry the swamp
✔️ Giving the feed animals using properly nutrition
PARAMPHISTOMATOSIS

Causes:
- Paramphistomum cervi
- Cotylophororon corylophorum
- Gastrothylax crumenifer
- Gigantocotyl explanatum → bile duct

ROUTE OF TRANSMISSION:
Ingest the metacercariae with feed and drinking water

PATHOGENICITY:
Mature worms is not pathogen, actually if they were too much → release the papillae of rumen

*Gigantocotyl explanatum* → inside the bile duct occur superficial bleeding.
Heavy infection → a pale liver and fibrocyx

Immature stages → bleeding of the mucosae of duodenum and necrosis, duodenitis
PATHOLOGY CHANGES:
The cataharralys inflammation become spreads and haemorrhagia from duodenum, jejunum & damages of the intestinal lympho- glandulae, lymphnodes and other organs were degeneration. Occur anaemia, hypoproteinaemia, oedema and emaciation.

CLINICAL SYMPTOMS:
Watery diarrhea, weakness and at heavy infection often followed by death.
DIAGNOSES
1. Clinical symptoms
2. Fecal examination
3. Postmortem inspection

PREVENTION AND ELIMINATION

Treatments for the illness animals, by:
- Hexachlorethane – Bentonite, Cattle: 180 grs/tail
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- Hexachlorophene, doses 10 mgs/kg BW
- Yomesan, doses 75 mgs/kgs BW

Giving molluscida at the pasture and make dry the swamp
SCHISTOSOMIASSIS = BILHARZIASIS

CAUSES:

Schistosoma japonicum

The diseases:

East Schistosomiasis = Katayama Disease
= Schistosomiasis intestinalis

Very endemic at Center of China, Japan, Philippines, Taiwan, Korea & Sulawesi island (surrounding of Lindu’s lake)

Predilections: vena porta and vena mesenterica
Definitive host: cattle, goat, sheep, pig, dog, cat & human
ROUTE OF TRANSMISSION:
Penetration of cercaria = furcocercaria through the skin
Intermediate host: *Oncomelania hupensis lindoensis*

PATHOGENECYS & CLINICAL SYMPTOMS:

*S. intestinalis*
Pruritus & skin rash → because of cercaria penetration
Bleeding occur → *petechiae*, eosinophil infiltrations and leucocyte

Acute:
- R/ poisoned & allergy → urticaria, subcutaneous oedema, asthma attacks, leucocytocys & eosinophilia
- Hepar abscess, painful & sharply pain at the gastrium, fever, shivered & diarrhea
- Worm eggs were cause of bleeding & tissues necroses
Chronics:
Decreases of body weight, gastrointestinal disturbances, cirrhosis of hepar and ascites

*Schistosoma spindale*
Sensitive animals: cattle, goat, sheep and horse
PARASITE DISTRIBUTION: Sumatra island, Indochina, Malaysia
Predilection: vena mesenterica
Intermediate host: *Indoplanorbis* spp

*Schistosoma incognitum = S. suis*
Sensitive animals: dog and pig
PARASITE DISTRIBUTION: Sulawesi island, West Java, Thailand
Predilection: vena mesenterica
PATHOGENECYS INFECTIONS of
*S. incognitum and S. spindale

*Dermatitis → port d’ entre of cercaria → itch
*Pneumonia → migration of schistosomule (young worm) → much of infections
*Eosinophylia non clinics
*Irritation at the wall of intestinals mucosae and organs → when lay eggs → eosinophyl infiltration, leucocyte → abscess often → if the eggs break → worm entering inside the lumen of intestinum → faeces
DIAGNOSES OF SCHISTOSOMIASIS:
- Clinical symptoms, depend on the infectious: bloody diarrhea + worm eggs
- Fecal examinations

Diseases elimination:
* Eliminated of snail with molluscida and drainage the habitat of snails
* To eliminated the sources of infection with routine fecal examinations and given treatment for the animals
* Throw away the disposal manner at the sure location and avoid the contamination for water from snail’s
TREATMENTS:

1. Stibophene / Foudine, suspensions 6.3 %, doses 7.5 mgs/kgs BW/iv for 10 days

2. Kalium emetics, doses 8.5-12 mgs/kgs BW/iv for 10 days

3. Lucanthone, doses 40 mgs/kgs BW/po for 2 days

4. Miridazole, doses 55 mgs/kgs BW for 5 days

5. Praziquantel, doses 8-15 mgs/kgs BW/sc for sheep
PARAGONOMOSIS = PARAGONOMIASIS = LUNG FLUKE DISEASE

CAUSE:

Paragonimus wertermanii

- Parasite distributions/endemic areas: South East Asia included (Indonesia, Thailand, Cambodia, Laos), India, Korea, PRC, Pacific islands, Center of Africa & South of America

- ANIMAL SENSITIVE: Family of Felidae (tiger, lion, cat, wild cat), Family of Canidae (dog, wolf, and wild pig) and human
*Paragonimus kellicotti*: Dist: Center of America & Japan

*P. ilokstuenensis*: parasite for The PRC

*P. ohirai*: parasite for The Japanese

*P. harinasutai*: parasite for The Siamese

**PATHOGENICITY:**

~ Occur cyst in the tissues espec. interbronchioly tissues ➔

migration of young

worm endured inside the tissues.
Cyst consist of blood & eggs worm; → emboly after the passage through the arteriole → micro infarc parenchym pulmo & necrose of pulmo parenchym

Eggs, cause of irritation, poison and allergy with composed of pseudotuberculosa granuloma. Granuloma cyst → essential type of laesi type of pulmo (thick wall, consist of fibrous tissues) and typical composed from Vermineuse Granuloma
~ *Pneumonia, bronchopneumonia* with *cattharalis alveolitis*, peri and *endobronchitis, pneumonia interstitiale* with limphocyte proliferation, histiocyct, plasmacyt and fibroblast inside inter alveoli.

~ Metaplacia and hyperplacia cell epithel bronchioli and hyperplacia at artery, laesi → pre cancer

Haematogogen migration → atypic form from paragonimous
CLINICAL SYMPTOMS:

* Dry cough → sputum + brown colors of blood similar with rusty

* Painful if palpation at the pulmo areas

* Mild fever
* Cyste form at the wall of the abdomen, ligaments, mesenterium, omentum and the intestinal is painful in the abdomen areas.

* Inside the brain, it causes epilepsy, hemiplegia, monoplegia, mild paresis, heavy and visual disturbances.
DIAGNOSES

1. Find the eggs from the mucous of tracheo-bronchitis and from expectoration / sputum & faeses
2. Immunology test: Through immuno-diffusion, CFT
3. Uro-precipitation, Intradermal reaction
1. Treatment for the animals by:
   Fasciolosis medicine regularly

2. By well cooking to eat the shrimps and crabs
Thank You

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