Scrapie

- Its anon febrile ,fetal chronic disease of sheep & goats characterize by long incubation period, pruritus abnormal gait
- It caused by prion protein (PrPsc) which is an abnormal isoform of host coded membrane glycoprotein which may accumulated in neurons or other tissues & highly resist to chemical &physical agents.

Epidemiology…
1-Its enzootic disease with wide distribution, affected mature animals (2.5-4.5 years) with high mortalities
2-pre-clinically infected sheep is the main source of infection
3-infection can be demonstrated in placenta, fetal fluids, intestine &nasal mucosa of naturally occurring cases
4-ingestion of infected materials considered as a good role for transmission
5-Horizontal transmission mostly occur through contaminated placenta from dam to lamb or lamb to lamb
6-Vertical transmission may also occur (scrapie agent were demonstrated in ovaries &uterus but not in testes & semen)
7-hay mites may consider as reservoir& there is no evidence to transmission to human.

Pathogenesis …
1-After entrance to body, replication occur in lymphoreticular tissues (tonsils ,retropharengyeal L.N, spleen & intestine)
2-The agent then reach CNS through uncertain way (may be sympathetic nerves or vagus)
3-In brain the agent cause non-inflammatory, vacuolar degeneration of gray matter

Clinical findings
1- Incubation period varies from several months –several years
2-early sings manifested by

Transient nervous sings included sudden collapse, behavior change, rubbing &biting at the fleece (pruritus) with loss of body condition.

3-Advanced sings characterized by…
A-intense pruritus (persistence rubbing) (nibbling)
B-loss of wool, hematoma of ears and swelling of face due to sever scratching
C- Abnormality of gait (incomplete flexion of hocks, shortening of the step,weakness ,lack of balance ,ataxia)
D-general nervous sings included, tremor, hyperecitability, jerking of head, nystagmus, rotation of the head, inability to swallow, blindness,
E-finally sever emaciation, sternal to lateral recumbancy, & death.

Clinical path..

- No hematological changes
- Examination of skin to excluded other skin infection
- Detection of the prion by tonsiellar biopsy

Control…
**Eradication

Bovine spongy form encephalopathy „(,BSE)

- BSE is a non febrile neurological disorders of adult cattle may believed to belong to scrapie when cattle expose to feed (animal protein contaminated with scraipe agents). And may transmitted to human.
- Its caused by transmissible agent of a scraipe strain that's modified to infect cattle
- The disease described in Great britain (at the first time)then developed as epizootics
- Adults cattle affected with long incubation period (2.5-8 years)or more
- The disease can also affected other types of animals & The main route of transmission is through ingestion of meat& bone meal
- Transmission to human is possible (creutzfeld-jakob, kuru,)

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Clinical findings….

- Predominates nervous sings (behaviors changes, hyperesthesia ,ataxia,)loss of body condition ,decrease milk production,

Clinical path…
1-Apolipo-protien E were detected in CSF
2-histo-pathologic change detected bilateral symmetric intra-cytoplasmic vacuolation of neurons
Control…
Eradication