

NECROTIC ENTERITIS

Course Title: VETERINARY PATHOLOGY (Paper-I)
UNIT No. : V (Avian Pathology)



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NECROTIC ENTERITIS

(NE, Clostridial Enteritis, Enterotoxemia)

Cause : Clostridium Perfringens (Gram+, toxin forming, spore forming, anaerobe).

Clostridia including Clostridium perfringens are normal inhabitants of the gut. When the microflora balance in the gut is disturbed, potentially pathogenic clostridia begin to produce toxins and proteolytic enzymes. The toxins will induce cell damage known as Necrotic Enteritis (NE).

Factors involved in microflora disturbance include:

- intestinal infections (eg coccidiosis),
- nutritional factors (protein
- source, grain source, diet changes),
- management: type of litter, timing of feed changes, antibiotic treatments.

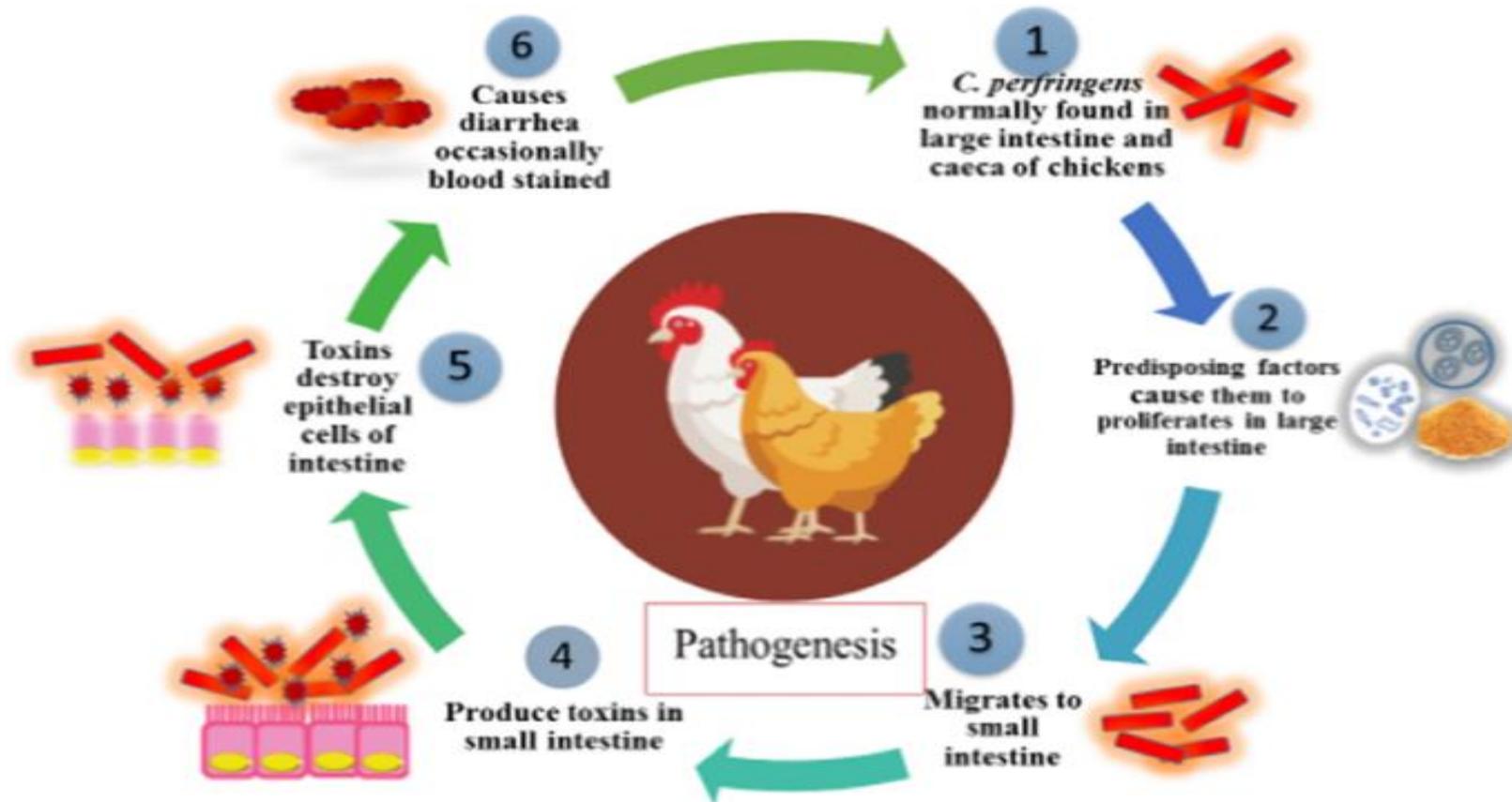
Species affected: Chickens, Turkeys and Quail.

- ❑ Natural outbreaks have been reported in chickens from 2 weeks to 6 months of age.
- ❑ Majority of NE problems are identified in broilers raised on litter (2 -5 weeks of age).

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Pathogenesis:



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Clinical signs : There are 2 forms of Necrotic Enteritis (NE)

Acute Clinical form

- ▶ Although it can be seen at any age, but . . .
- ▶ It is primarily a disease in young chickens, showing severe depression, reluctance to move, diarrhoea, ruffled feathers and sudden death and increased mortality.

Subclinical form

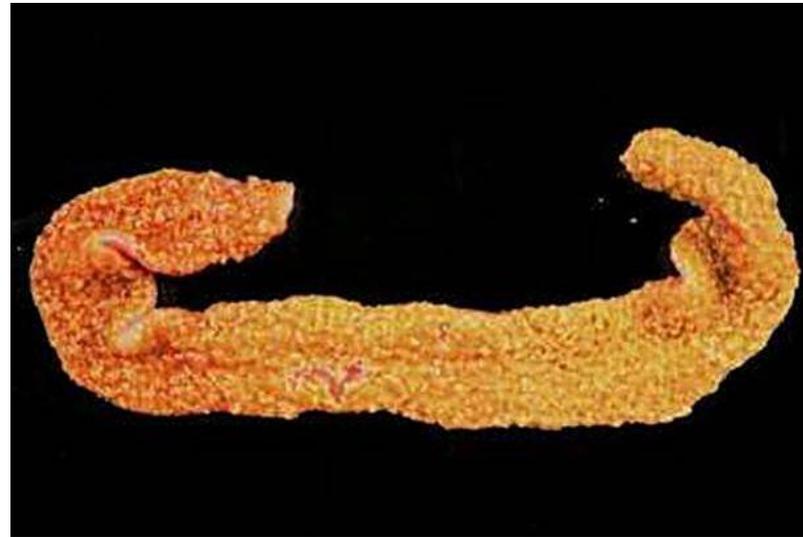
- ▶ It does not produce outward signs but has big impact on performance (weight loss, reduced weight gain and impaired FCR).

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Lesions:

- ❖ Necrosis of the mucosa of the small intestine.
- ❖ In the clinical form, the necrosis might progress into a fibrinonecrotic enteritis forming a diphtheritic membrane.
- ❖ In the mild form, focal areas of intestinal mucosal necrosis without further clinical signs can be found.



Intestinal mucosa showing "towel-like" appearance in a chicken affected by NE

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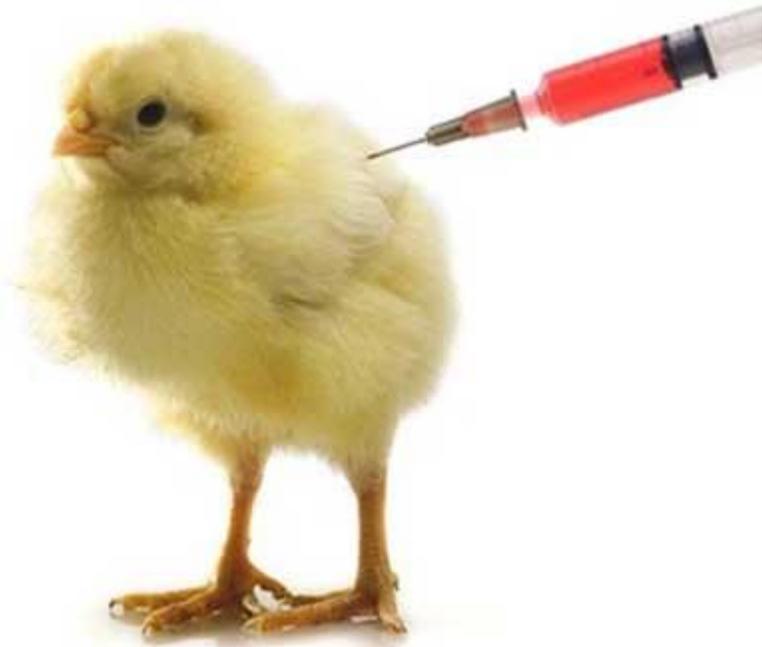
Diagnosis:

- ❖ Clinical signs in combination with typical gross and microscopic lesions and isolation of the causative agent will confirm the clostridial infection.

Treatment: antibiotic

Control:

- ❖ Vaccination of breeders with inactivated vaccines based on toxins inducing active and passive immunity have shown to offer good protection.
- ❖ Maintain microflora balance with management of all related factors; management, coccidiosis control and nutritional factors.



THANKS

References:

Book : Poultry Diseases: Diagnosis and Treatment by H. V. S. Chauhan

1. Pictures are taken from [www.google .com](http://www.google.com)