

Spinal Abscesses in Male Broiler Breeders

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Introduction

- Typical Disease Presentation
- Disease Information
- Sporadic vs. Flock Problem
- Bacterial Organisms Involved
- Theorized Causes
- Case Example
- Conclusion

Typical Case History



- Signalement:
 - 6-10w old male broiler breeders
 - Lasts 4-6 weeks
- Complaint:
 - Lameness & Paralysis
 - Affects 25-35%
 - Mortality 5-15%
 - Cull males down, unable to reach food/water

Clinical Signs

- Arched Back
- Sitting on hocks with outstretched legs
- Often described as “kinky-back stance”



Disease Progression



- Paralysis worsens with progression of spinal cord compression
- Birds typically die because they can't get to food or water

Disease Info

- Spinal abscesses typically found in the absence of other lesions
- Technical name:
 - Vertebral Osteoarthritis (VOA)
- New disease or misdiagnosed in the past?
- Other spinal lesions include:
 - “kinky-back”
 - “roach-back”
 - “camel-back”

Sporadic vs. Flock Problem

Characteristics	Sporadic	Flock Problem
Bird Type	Broilers	Broiler Breeders
Age of Onset	35+ days	6-10 weeks
Mortality	< 1%	5-15% (heavy culling)
% Affected	< 1%	> 25%
Necropsy	Other lesions	No other lesions
Bacteria	<i>Staphylococcus</i>	<i>Enterococcus</i>

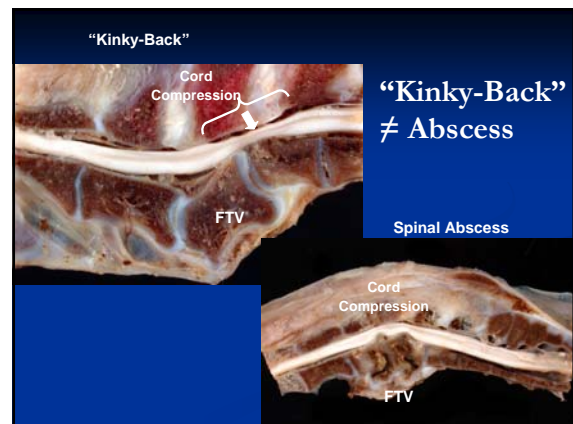
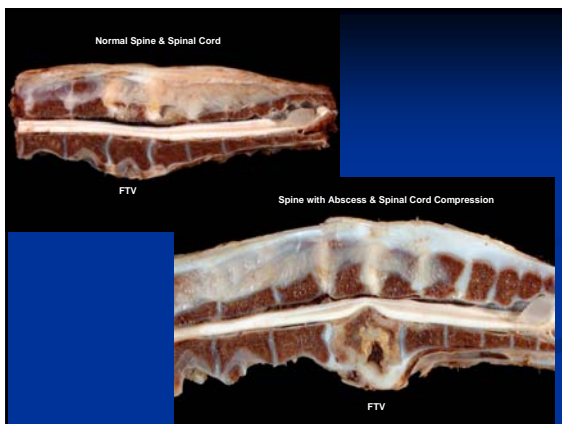
Differentiating Spinal Abnormalities

- Thorough Necropsy
 - Remove lungs to expose ribs & spine
 - Abscess → see prominent bulge in spine where lungs would meet kidneys
 - Pale yellow to white abscess
 - Abscess best seen when spine cut lengthwise
 - Difficult to do in field
- Lab Diagnosis
 - Collect spine & submit for histopathology & bacteriology

Abscess Location

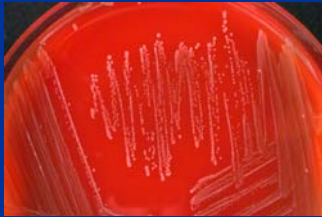


- Free Thoracic Vertebra (FTV)
 - The only movable joint in spine of chicken
 - Located midway along spine near junction of lungs & kidneys



Bacteriology

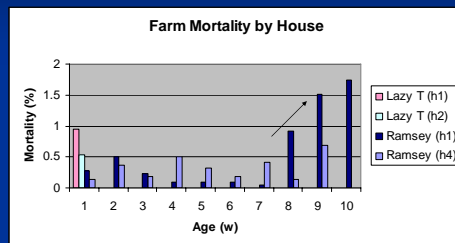
- Cultures indicate that *Enterococcus cecorum* is primary agent involved



Probable Causes & Precautions

- Exact cause unknown
 - Bacteria → Intestine or Respiratory Tract → Blood Stream → FTV
- Avoid excessive feed restriction
- Follow suggested body weight profiles & nutritional guidelines
- Adequate coccidiosis control
- Avoid overstocking & insufficient feeder space
- Prevent respiratory disease

Case Report



Always try to do some digging

- Upon further investigation, it was identified that this particular grower decided to try something different in feeding the males
- Usually skip-a-day begins at 2w for pullets and 4w for males
- He was having some issues with piling in the pullets, so to avoid entering the house on a non feed day for pullets, he was just feeding males extra to last them 2 days from 2-4w of age

The Problem With This

- The feed did not last the 2 day period and males were actually out of feed for most of the 2nd day for the 2w period
- This farm was the only one affected in the complex, and was the only one that strayed from the feeding program

Suggestions Offered

- Damage was done...nothing could be done for the affected males at this point
- Suggested culling out down males due to inability to reach food/water sources
- Lesson learned the hard way!

Conclusions

- Outbreaks of spinal abscesses are different from sporadic abscesses & other spinal abnormalities
- Clinical onset is 6-10 weeks, lasts 4-6 weeks & affects predominantly males
- Recognized by paralysis & arched back
- Confirmed by necropsy & finding abscess at FTV, along with isolation & id. of *E. vecorum*
- Prevention & treatment methods limited due to incomplete understanding of cause

Thank You... Questions?

