Intestinal Pathology of *Salmonella enterica* in 2 Month Old Calf: A Case Study

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Signalment: 2 month old, female, Holstein calf

History: 6-7 month old calves scouring
2-month old calves scouring and dying

Physical Exam:
- Sternal recumbency
- 8% dehydrated
- Emaciated
- Pyrexic
- Tachycardic
- Euthanized via captive bolt
Morphologic and Etiologic Diagnoses

- Small Intestine: Fibrinopurulent and necrotizing enteritis, subacute, diffuse, severe
- *Salmonella enterica* group B cultured
  - Serotype Rough_O:i:- and Serotype 4,12:i:- recovered by NVSL
- Other Diagnostics:
  - Negative FA for rotavirus, coronavirus, BVDV, *E. coli* K99 and F41 antigens
  - Negative for parasites on fecal flotation
Pathogenesis

Ingestion

Invades mucosal epithelial cells

Releases endotoxin and recruits/activates neutrophils

Epithelial detachment and vascular edema

Interstitial and intraluminal fluid accumulation

Pseudomembrane formation and watery diarrhea
Why should we care?

• Occasional source of *Salmonella* *spp.* infection in humans
• Infected from contaminated environment
• Focus on prevention of spread among cattle
  – Subgrouping of animals
  – Antibiotic use
  – Probiotic use
  – PPE

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Thank You!

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