

# Antimicrobial susceptibility profile of several bacteria species identified in the peritoneal exudate of cows affected by parietal fibrinous peritonitis after caesarean section

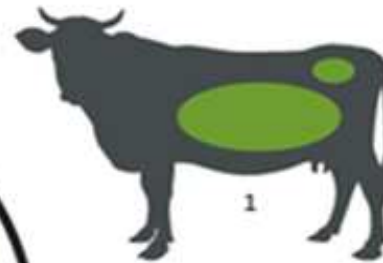
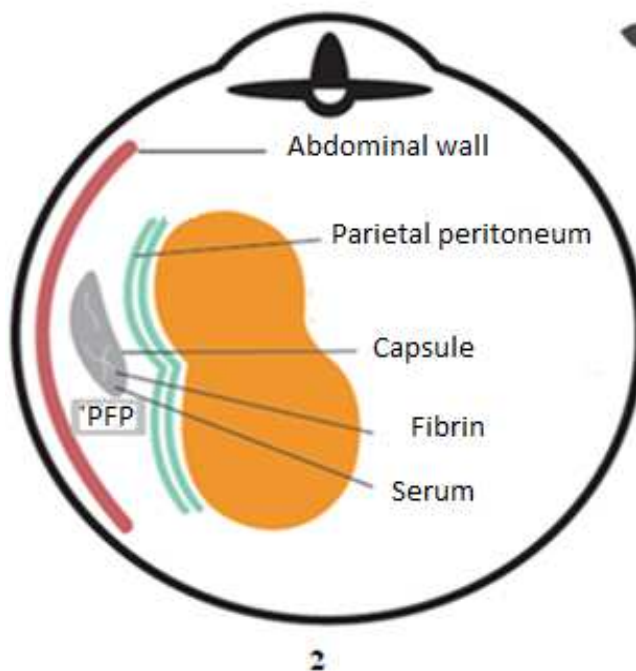
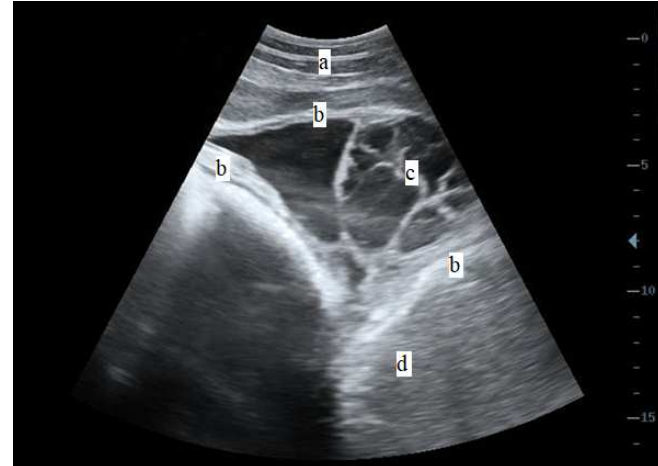
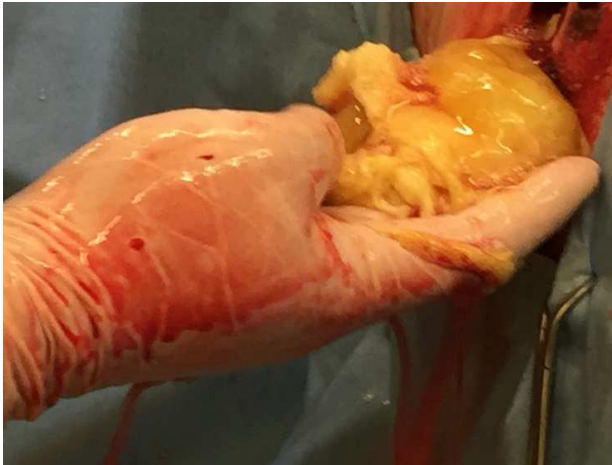


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Bovine Clinic, Sustainable Livestock Production, FARAH

# Introduction





# Introduction

**Case Reports**

Ruminants

**ORIGINAL RESEARCH**

**Generalised fibrinous peritonitis in a cow following laparotomy**

Salvatore Ferraro DVM, André Desrochers DVM, MS, Sylvain Nichols DVM, MS, David Francoz DVM, MS, Marie Babkine DVM, MS

**Article**

**Infection, Serology and Exudate Sampling in Fibrinous Peritonitis**

Salem Djebala<sup>1,\*</sup>, Julien Evrard<sup>2,3</sup> and Nassim Moula<sup>4</sup>, Arnaud Sartelet<sup>1</sup> and

**OBJECTIVE**  
To describe the clinical and clinicopathologic characteristics, treatment, and outcome for cattle that developed a retroperitoneal abscess (RA) following paralumbar fossa laparotomy (PFL).

**ANIMALS**  
32 Holstein cows with RA.

**RESULTS**  
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**Conclusion**  
Parietal fibrinous peritonitis is a rare complication in cows, characterized by a fibrinous exudate in the peritoneal cavity. The diagnosis is based on clinical signs, laboratory findings, and imaging. Treatment involves antibiotics and surgery. The outcome is generally good with appropriate management.

**Keywords**  
Cattle, retroperitoneal abscess, laparotomy, fibrinous peritonitis, paralumbar fossa.

**Time PCR, Peritoneal Abscesses**

**caesarean section**

**MDPI**

## Material and methods



- Sensitive
- Intermediate
- Resistant

Antibiogram Committee of the  
French Society of Microbiology  
(2018)

- Weakly resistant
- Multidrug resistant
- Extensively drug resistant
- Pan-drug resistant

Magiorakos et al. (2012)



## Results and discussion (Bacterial culture : 156 samples)

Aerobic / facultative anaerobic bacteria cultured	Number of positive samples	Anaerobic bacteria cultured	Number of positive samples
<i>Trueperella pyogenes</i>	107	<i>Clostridium perfringens</i>	6
<i>Escherichia coli</i>	38	<i>Fusobacterium necrophorum</i>	3
<i>Proteus mirabilis</i>	6	<i>Bacteroides sp.</i>	1
<i>Streptococcus uberis</i>	3	<i>Bacteroides fragilis</i>	1
<i>Helcococcus ovis</i>	2	<i>Helcococcus ovis</i>	1
<i>Mannheimia varigena</i>	2	<i>Peptoniphilus indolicus</i>	1
<i>Staphylococcus aureus</i>	2	/	/
<i>Streptococcus dysgalactiae</i>	2	/	/
<i>Providencia rettgeri</i>	2	/	/
<i>Proteus sp.</i>	2	/	/
<i>Proteus vulgaris</i>	1	/	/
<i>Helcococcus sp.</i>	1	/	/
<i>Salmonella typhimurium</i>	1	/	/
<i>Streptococcus mitis</i>	1	/	/
<i>Pseudomonas aeruginosa</i>	1	/	/
<i>Actinobacillus rossii</i>	1	/	/
contaminants	9	/	1
<b>Total</b>	<b>172 strains</b>	<b>Total</b>	<b>13 strains</b>



## Results and discussion (Antibiotic susceptibility : 12 species, 59 strains)

	Weakly resistant : resistant to less than 3 tested antimicrobial classes	Multidrug resistant : resistant to 3 or more tested antimicrobial classes	Extensively drug resistant : resistant to all except one or two antimicrobial classes	Pandrug resistant : resistant to all tested antimicrobials
<i>E. coli</i> (38)	12	18	8	0
<i>P. mirabilis</i> (6)	1	3	2	0
<i>S. uberis</i> (3)	3	0	0	0
<i>P. rettgeri</i> (2)	0	1	0	1
<i>S. dysgalactiae</i> (2)	2	0	0	0
<i>M. varigena</i> (2)	2	0	0	0
<i>S. mitis</i> (1)	1	0	0	0
<i>S. aureus</i> (1)	0	1	0	0
<i>A. rossii</i> (1)	1	0	0	0
<i>P. sp</i> (1)	0	0	1	0
<i>P. aeruginosa</i> (1)	0	0	1	0
<i>S. typhimurium</i> (1)	0	1	0	0
<b>Total</b>	<b>22/59 (37%)</b>	<b>24/59 (41%)</b>	<b>12/59 (20%)</b>	<b>1/59 (2%)</b>



## Results and discussion (Antibiotic susceptibility : 12 species, 59 strains)

Antibiotics	Susceptible	Resistant	Intermediate
<b>Florfenicol</b>	29 (56%)	<b>21 (40%)</b>	2 (4%)
<b>Trimethoprim-sulfonamide</b>	28 (47%)	<b>31 (53%)</b>	0
<b>Amoxicillin</b>	16 (31%)	<b>36 (69%)</b>	0
<b>Kanamycin</b>	21 (40%)	<b>31 (60%)</b>	0
<b>Tetracycline</b>	18 (30%)	<b>41 (70%)</b>	0

Antibiotics	Susceptible	Resistant	Intermediate
<b>Cefquinome</b>	49 (83%)	<b>10 (17%)</b>	0
<b>Ceftiofur</b>	49 (83%)	<b>10 (17%)</b>	0
<b>Enrofloxacin</b>	42 (80%)	<b>17 (20%)</b>	0
<b>Marbofloxacin</b>	44 (75%)	<b>13 (22%)</b>	2 (3%)



## Conclusion

- Parietal fibrinous peritonitis (PFP) is not a sterile process.
- Antimicrobial resistance is common in the isolated bacterial strains
- Antimicrobial resistance, includes molecules of critical importance
- **Antimicrobial treatment of PFP should be based on bacterial isolation and antimicrobial susceptibility testing.**





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Thank you for your attention