Abomasal Clostridiasis ("Braxy") in Costa Rica

A. Berrocal[1], M. Chirino[2] and M. Caballero[3]
[1]Servicio de Patologia, Escuela de Medicina Veterinaria, Universidad Nacional, Heredia, Costa Rica
Current address: AP 904-Heredia 3000. Email. histopatovet@gmail.com
[2]Departinent of Veterinary Microbiology, Western College of Veterinary Medicine, University of Saskatchewan, Saskatoon, Canada
[3]Laboratorio de Microbiologia, Escuela de Medicina Veterinaria, Universidad Nacional, Heredia, Costa Rica

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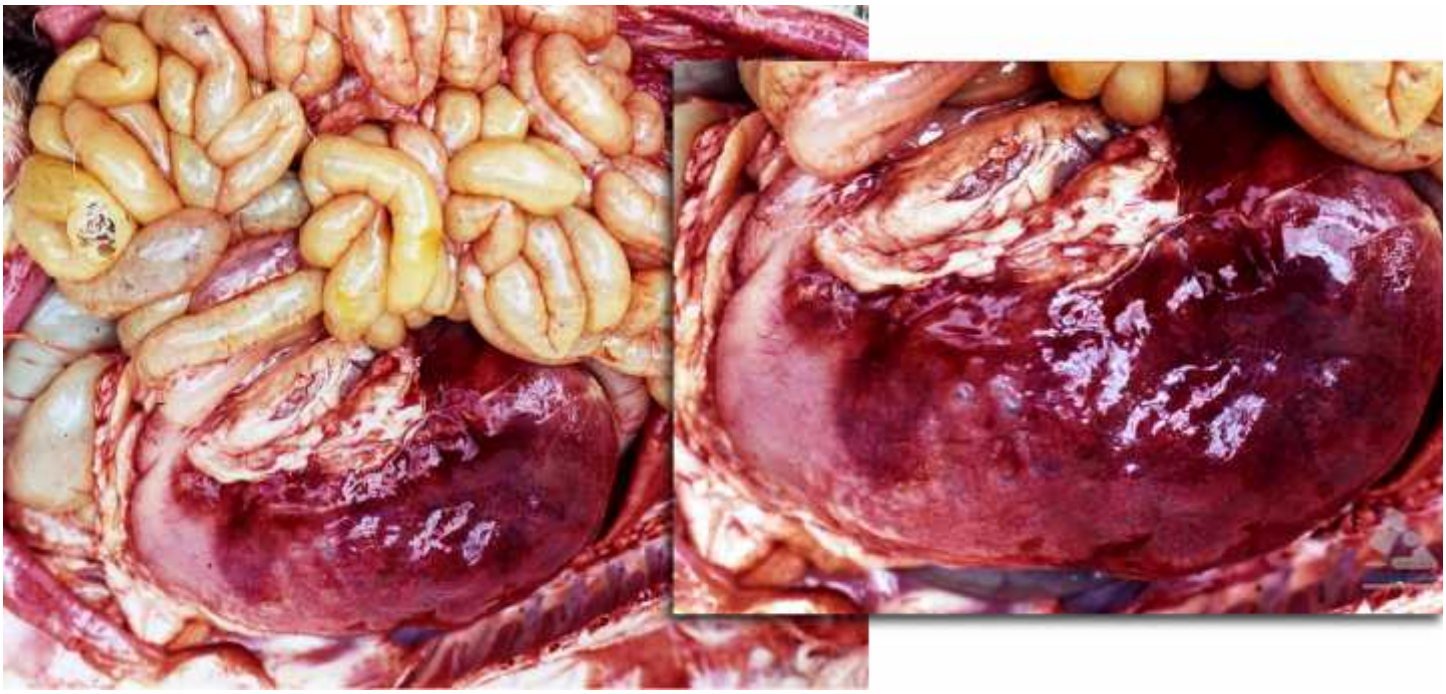
In November 1996 and February 1997, two sheep carcasses were received at the Pathology Department, Escuela de Medicina Veterinaria, Universidad Nacional, Heredia, Costa Rica. Both animals were crossbred (Texel-local), females, 25 and 26 days old (cases A and B). Both came from same flock, located in the province of Heredia, 1520 meters above sea level. The only clinical information available was black, fetid diarrhea in case B and sudden death in both cases.

Pathological findings:
Case A: Grossly, the abomasum showed localized hyperemic areas in the serosa, with fibrin deposition. Accumulation of underlying gas was suspected on palpation of those areas. The mucosal surface was hyperemic, and abundant gas bubbles were observed. The lungs had an abnormally increased consistency.



Figs.1and 2. The abomasal serosa showing a diffuse hemorrhages and necrosis.

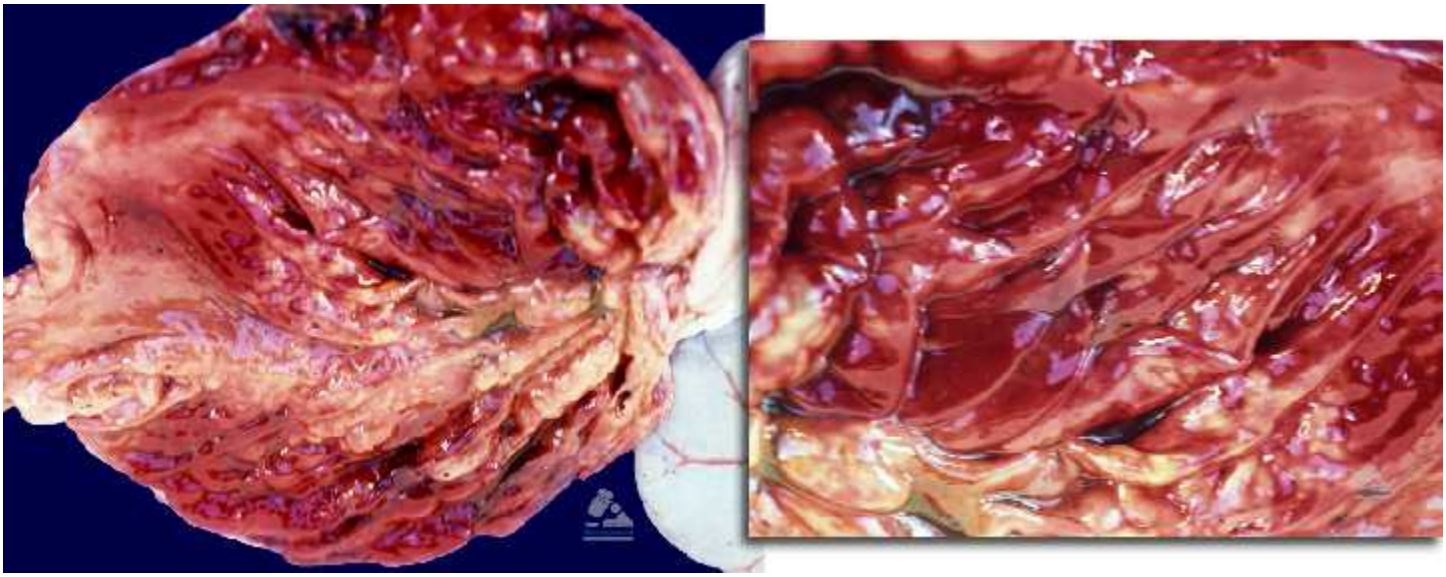


Fig.3 and 4. The abomasum is open (mucosa). Diffusely necrosis and hemorrhages are present. Besides gas bubbles formation are seen.

On histological examination, the abomasal mucosa showed massive necrosis and large numbers of bacteria. Large areas of necrosis and abundant gas bubbles were also present in the submucosa. Besides, hyperemia was observed in all the parenchymal organs, and this animal also had an acute bacterial peritonitis. See the following two pictures.

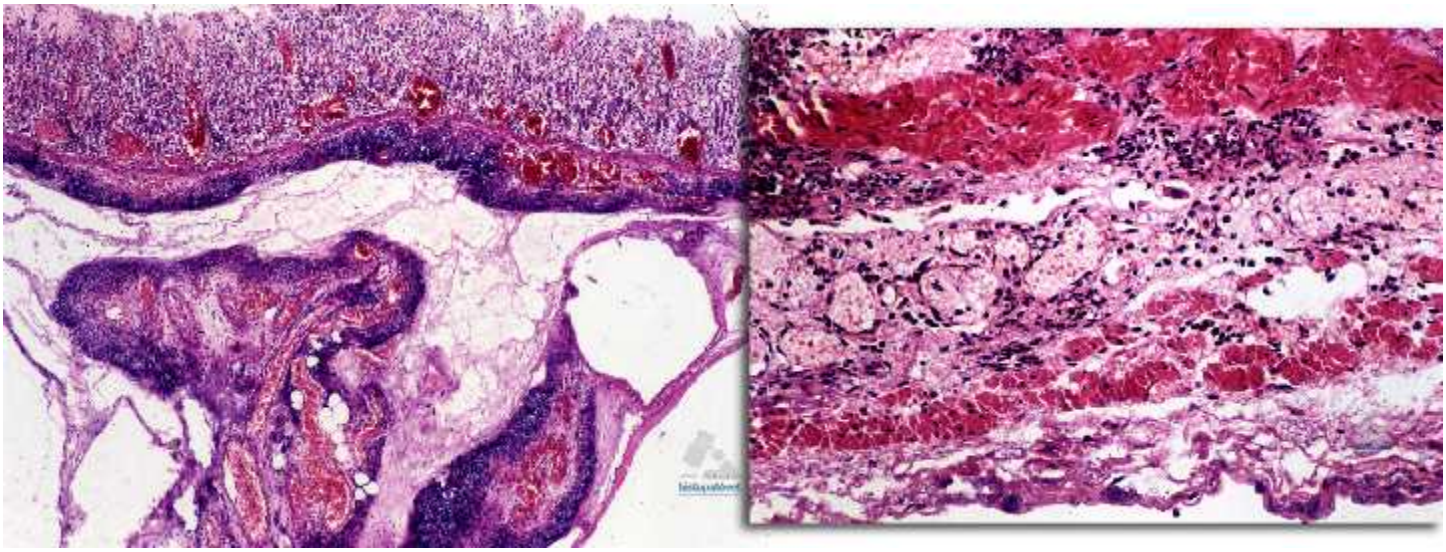
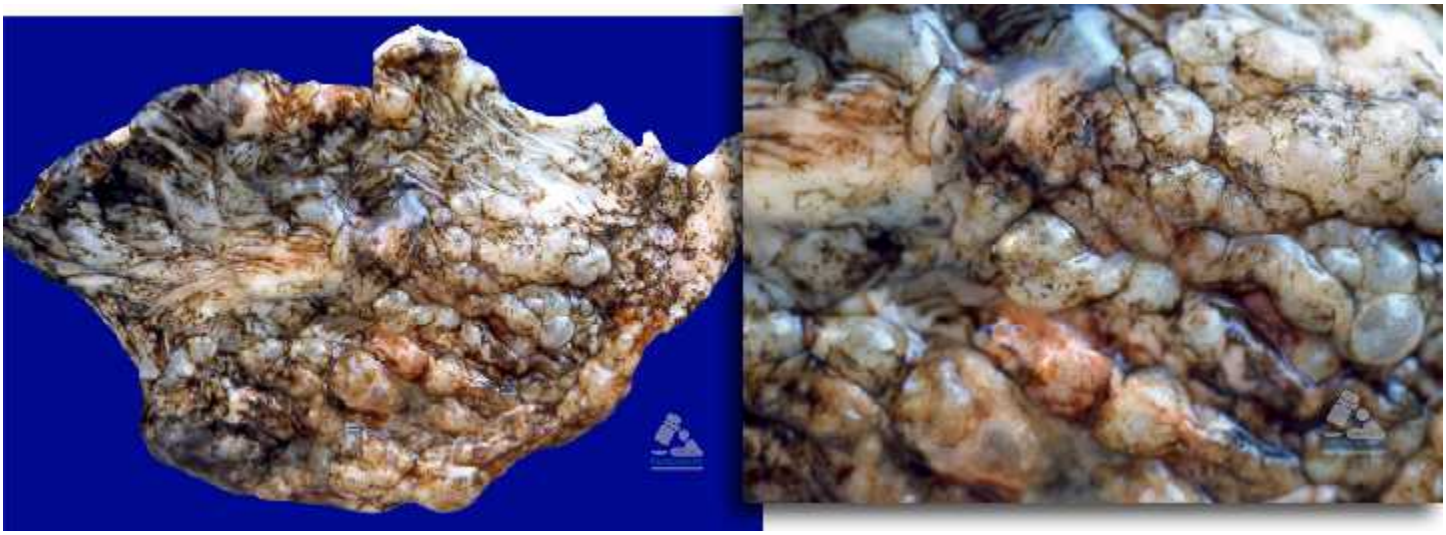


Fig. 5. The entire abomasal submucosa with a lot of necrosis with fibrin formation. Fig.6 The deep submucosa with necrosis and hyperemia.

Case B: Macroscopically, the abomasal mucosa had abundant dark fluid material, with a slightly unpleasant odor. After washing the area, the tissue appeared bloody and emphysematous.



Figs 7. The abomasal mucosa surface showing multiple white air bubbles. Fig.8 A close-up.

The kidneys were very friable. The lungs had increased consistency and were edematous. Epicardial hemorrhages and accumulation of pericardial fluid were also observed.

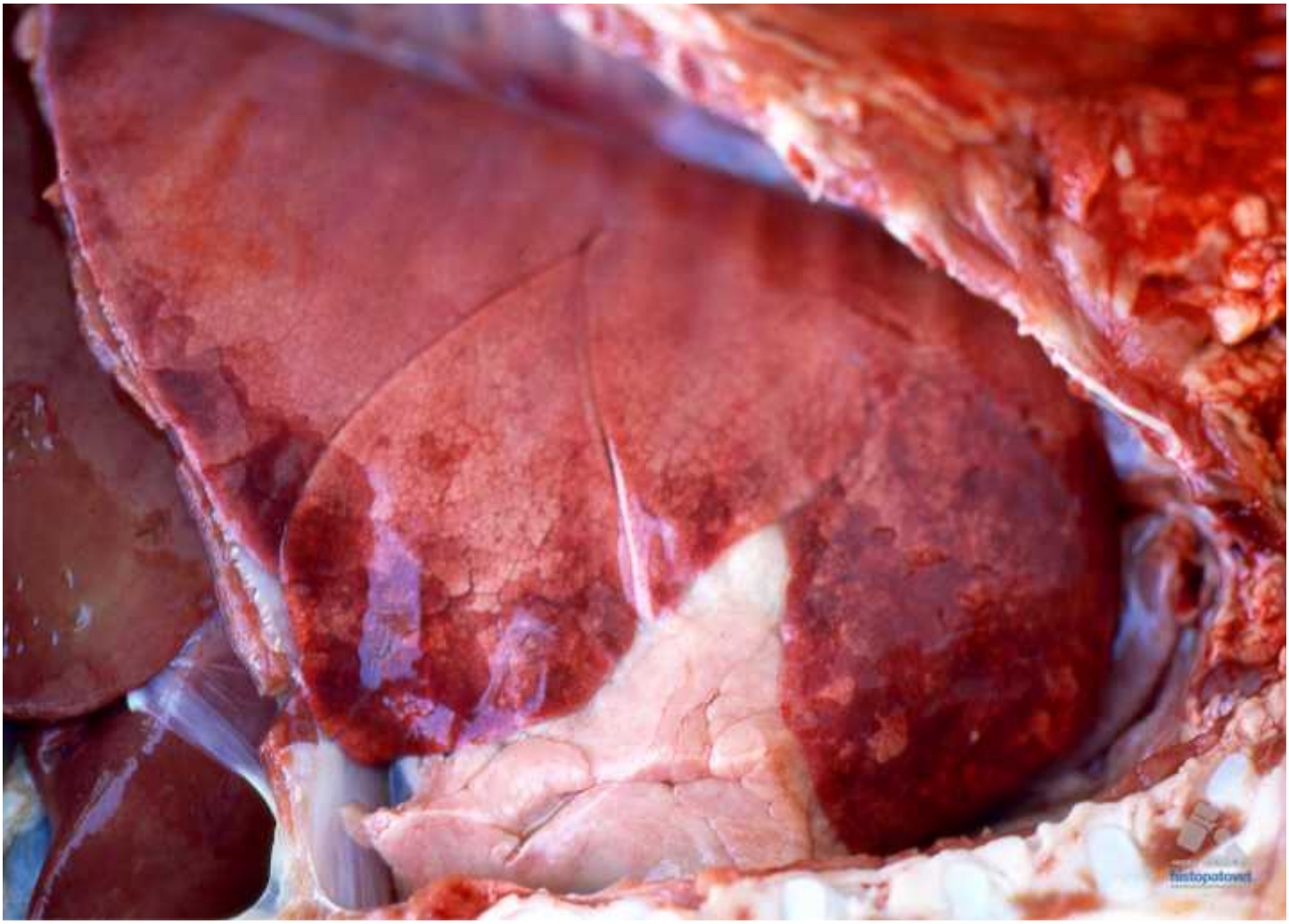


Fig.9. A gross aspect of the lungs. Notice the redness aspect of the ventral parts.

Histologically, multiple gas bubbles of different sizes were seen in the abomasal mucosa and submucosa. The kidneys had diffuse cortical necrosis.

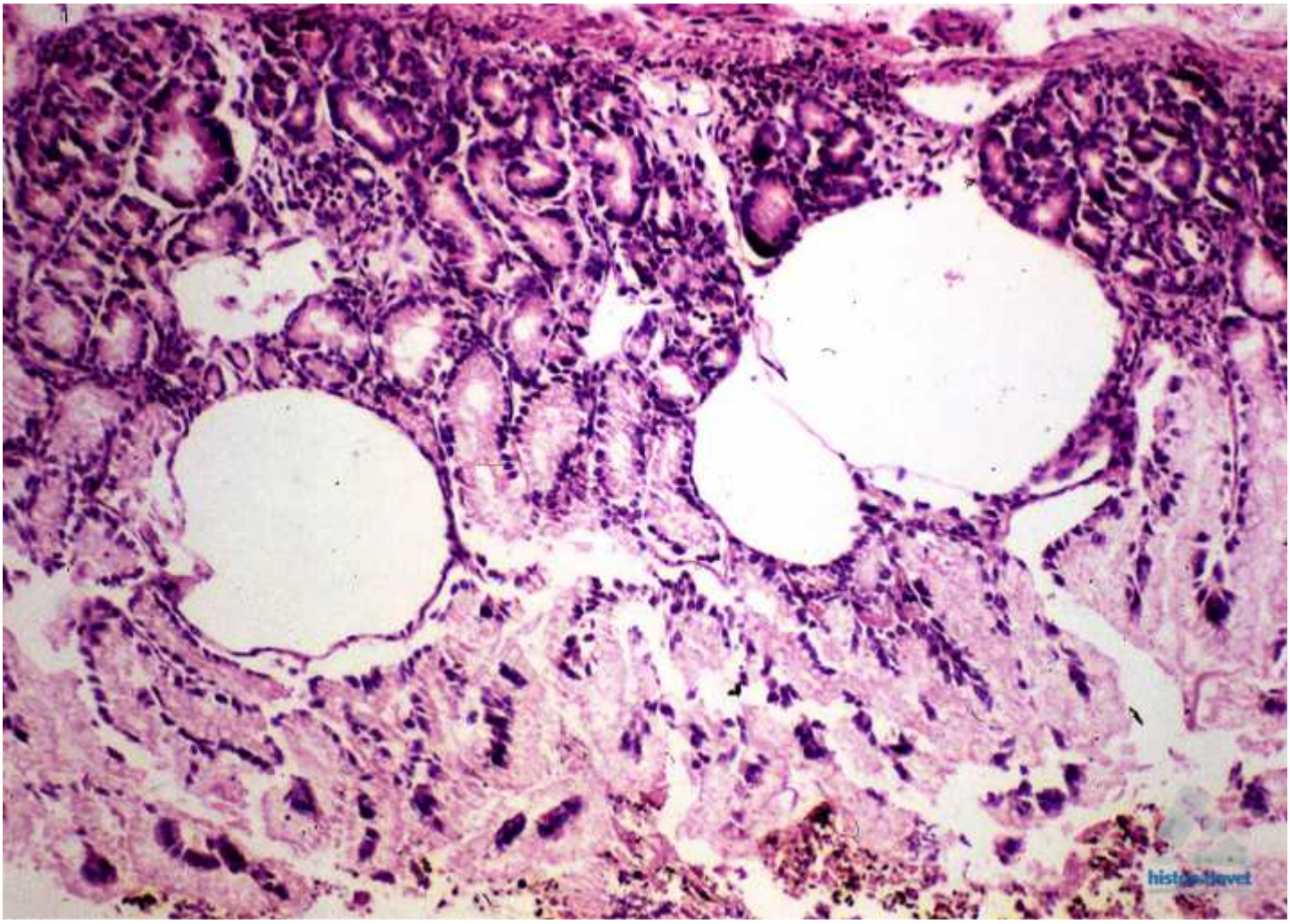


Fig.10. Three empty spaces in the submucosa (probably air). H.E

Bacterial detection: No significant pathogens were cultured under aerobic conditions; anaerobic culture was not available.

Impression smears were done from the abomasal lesions. In both cases, there were abundant Gram positive rods, suggestive of clostridia.

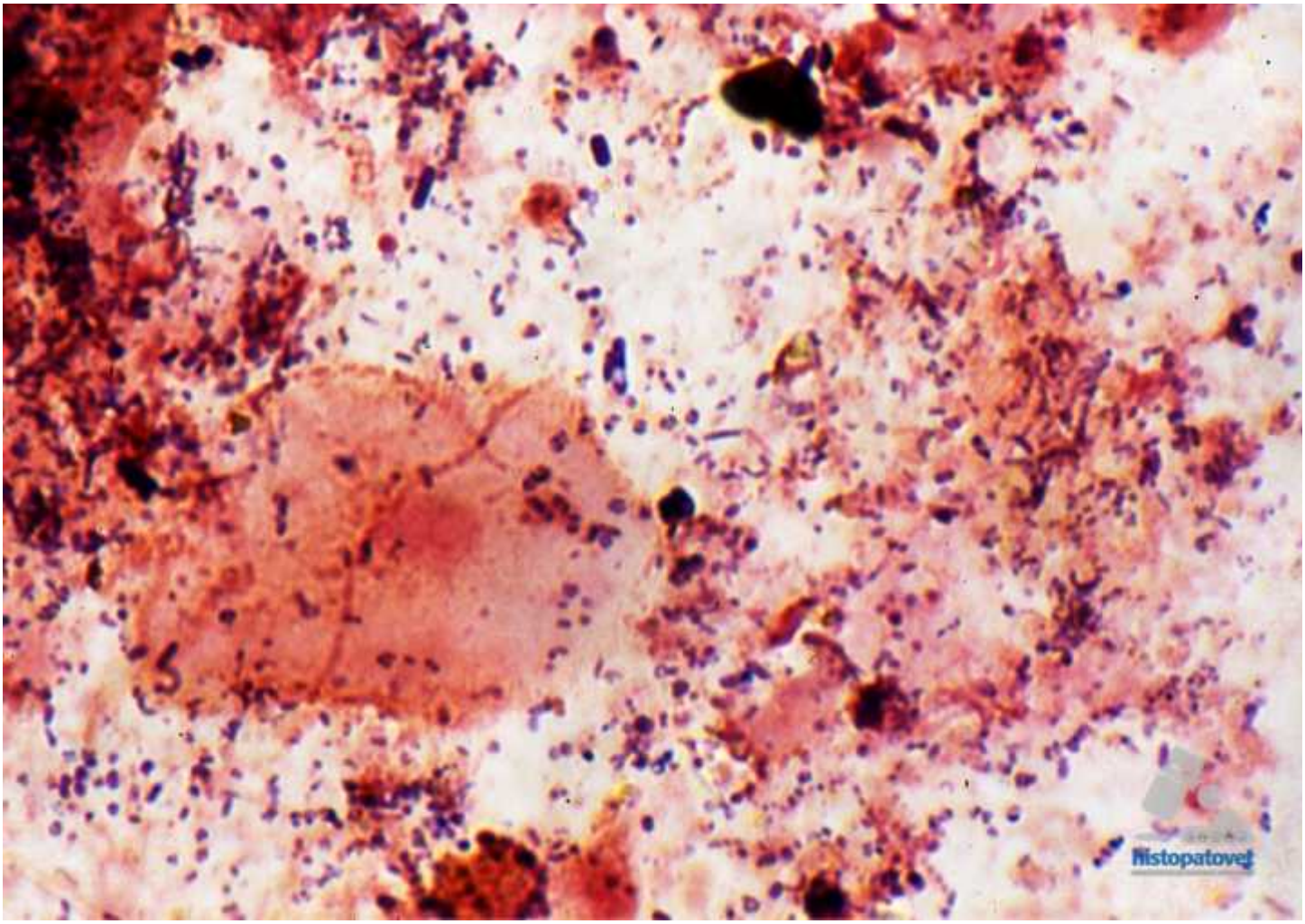


Fig.11. An abomasal impression smear, stained with gram, showing abundant positive roads.

Paired slides were stained with commercial fluorescent antibody conjugate (VMRC, Inc) for *Clostridium septicum*, *C. chauvoei* and *C. novyi*. These smears were positive for *C. septicum* and negative for *C. chauvoei* and *C. novyi*.

During the preparation of this presentation a Jersey cow coming from the same area was also diagnosed with abomasal, ruminal and reticular clostridiasis.