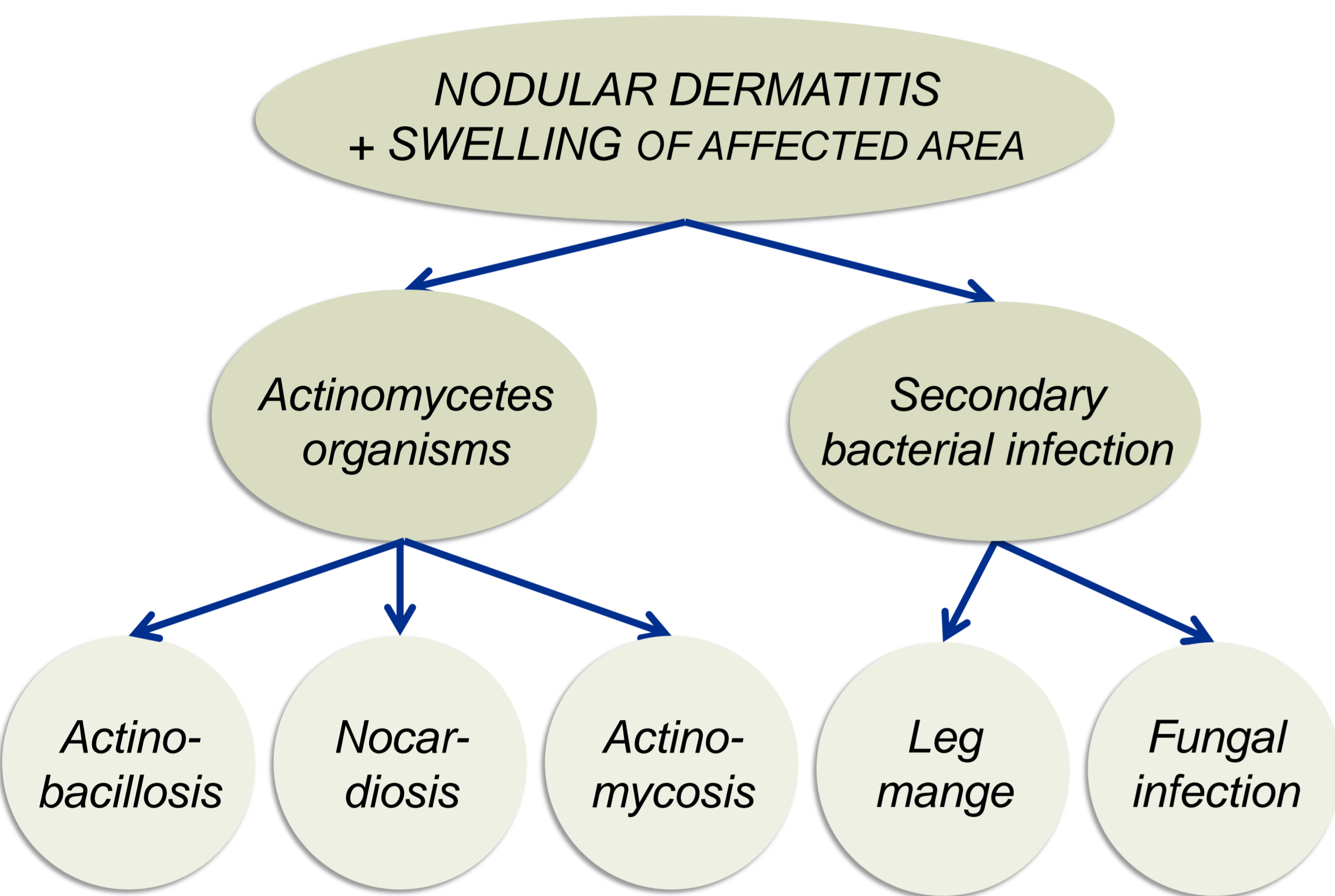


# An atypical case of cutaneous and respiratory actinobacillosis in a French beef cattle herd

## Case history

- ✓ Two 4-years-old Rouge-des-Prés female cows from a single beef herd
- ✓ Chronic swelling and cutaneous nodules on hind limbs
- ✓ No improvement despite 20 mg/kg long-acting oxytetracyclin, once, IM
- ✓ Mange and paratuberculosis reported in the herd

## Differential diagnosis

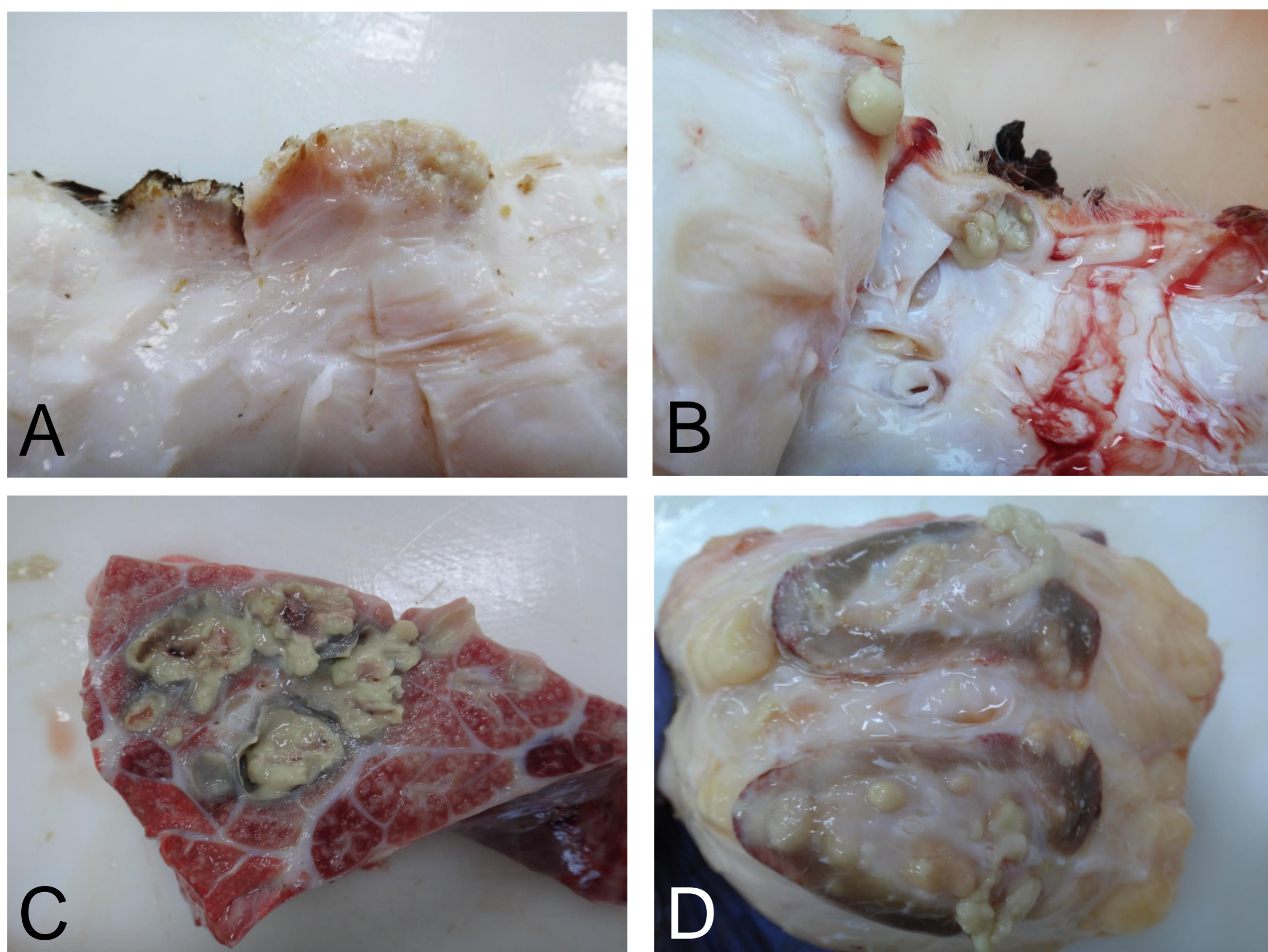


Respiratory disorder: thromboembolic pneumonia / infectious broncho-pneumonia  
Digestive disorder (#1): paratuberculosis / GI parasitism

## Therapy

Both cows were euthanized for welfare reason (clinical paratuberculosis (#1) and severe swelling of the hind limb (#2)).

## Necropsic findings



A and B: chronic nodular dermatitis + sub-cutaneous oedema  
C: chronic suppurative thromboembolic pneumonia  
D: chronic suppurative lymphadenitis in the left precrural lymph node

## Clinical examination



- + polypnea (40 to 60 bpm), & excessive whistling on lung auscultation
- + enlargement of regional lymph nodes
- + cachexia and diarrhoea (#1) ; suppurative mastitis (#2)

## Diagnostic procedures

- Ante-mortem samples : impression smears, skin scrapings, skin biopsies + blood and faeces for paratuberculosis status
- Post-mortem samples : lung, udder, lymph nodes

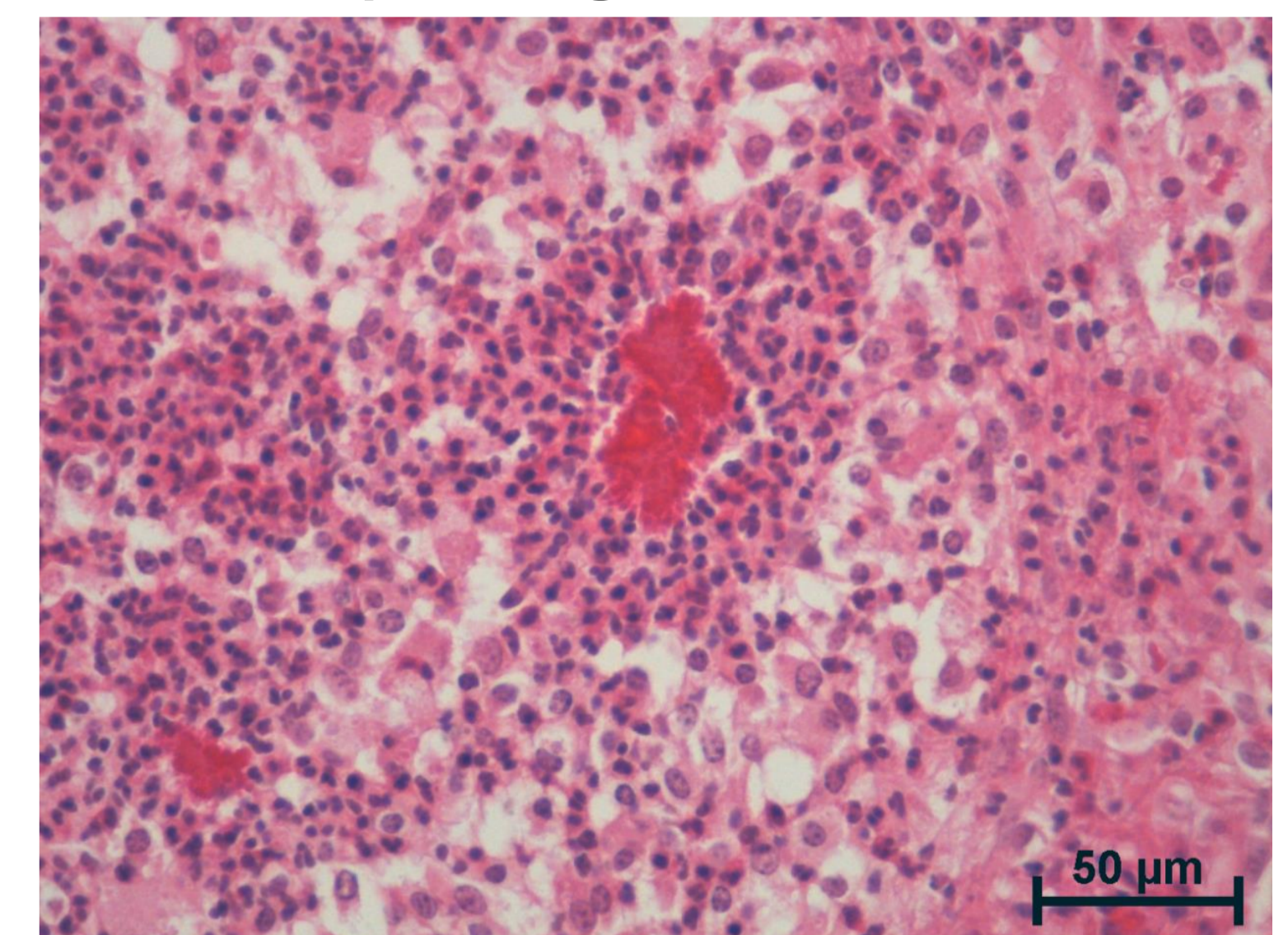
### Microbiological analyses

Analyses	Results
Microscopic examination (direct + rapid stains)	Inconclusive for bacteria No parasite
Fungal culture	Negative
Bacteriological culture (+ API Gallery)	Small Gram (-) coccobacillus, Pasteurellaceae family
PCR ( <i>Nocardia</i> sp., <i>Actinobacillus lignieresii</i> <sup>a</sup> )	<b><i>Actinobacillus lignieresii</i><sup>b</sup></b>

<sup>a</sup> PCR + partial sequencing of the *rpoB* gene ; <sup>b</sup> on pus, skin biopsies, precrural and retromammary lymph nodes and lung samples

Lumpy skin disease was also investigated in the context of new cases in Turkey -> negative PCR for capripoxvirus  
Paratuberculosis: #1: positive (Ziehl-Nielsen and ELISA); #2: negative

### Histopathological examination



Microscopic appearance of a cutaneous lesion showing neutrophils surrounding eosinophilic club-like bodies (Splendore-Hoeppli phenomenon). H&E stain, x400.

**Diagnostic: cutaneous and pulmonary actinobacillosis (+ clinical paratuberculosis for case 1)**

## Discussion

- Generally, actinobacillosis in cattle = **sporadic** involving the tongue ("wooden tongue").
- Here, **cutaneous + respiratory** actinobacillosis in **at least 2 cows** from a single herd.
- Common predisposing factor in this herd: abrasive straw, **leg mange**?
- Primary antibiotic treatment apparently not effective: not prompt or prolonged enough?

**CONCLUSION: cutaneous actinobacillosis should be considered in differential diagnosis of nodular dermatitis associated with a swelling of the affected area in cattle. Causes of puncture wound, including leg mange, should be investigated when several animals are affected.**

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