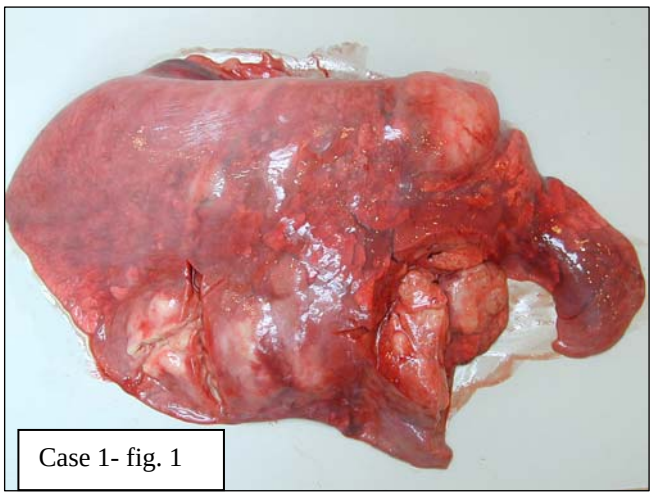
Histopathology up close - A workshop for IVSA 2010

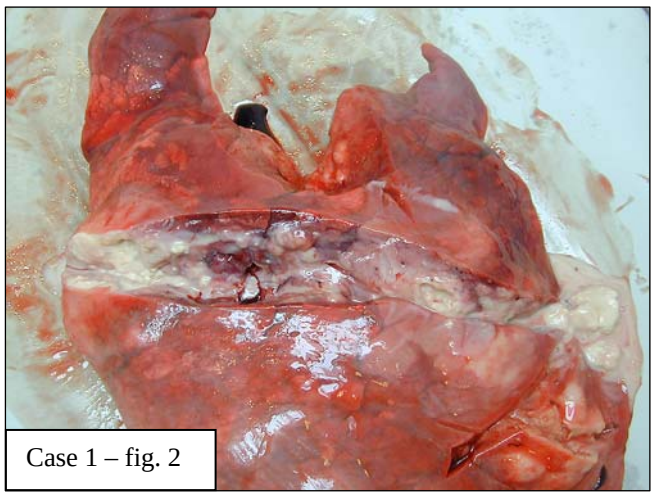
In this workshop, you'll have the opportunity to see the equipment and the way Danish veterinary students are taught histopathology. The workshop is planned so students of all levels can participate. However, to get the full profit of the workshop, a prior minimum knowledge of normal histological morphology is recommended.
In the workshop, you'll be presented for three different cases (see below) and given time to examine the histological slides, play with the microscope and screens, and work with the questions on your own or in groups, before the cases will shown and be gone through at the main microscope and all screens. Furthermore, examples of the use of immunohistochemistry in diagnostic pathology will be shown. If you are very curious, you can always take a sneak peek in your pathology book now. To help you, references are given to two different pathology books in all three cases.
McGavin = Pathologic basis of Veterinary Disease. 4. ed. 2007. Eds.: McGavin, M. D. & Zachary, J.F.
JKP = Jubb, Kennedy, and Palmer's pathology of domestic animals. 5. ed. 2007, Vol. 1-3. Ed.: Maxie, M. G.

Case 1

Clinical information
Three months old foal with respiratory problems. Treated with antibiotics for one month without results.

Gross lesions are shown in figure 1, 2, 3, 4, and 5

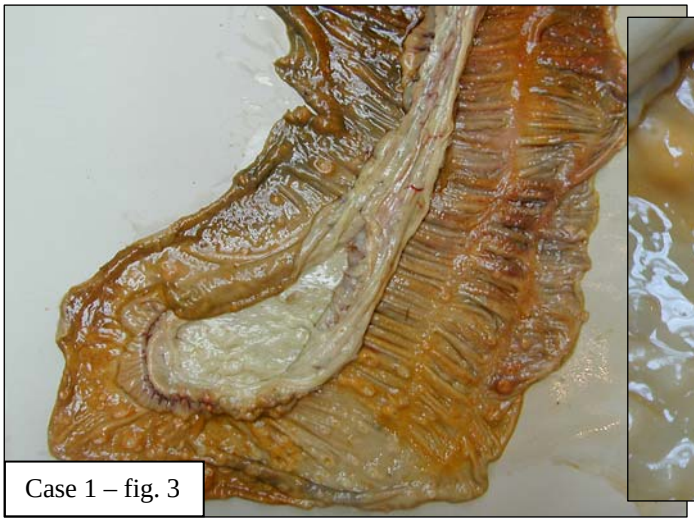

Case 1- fig. 1


Case 1 – fig. 2

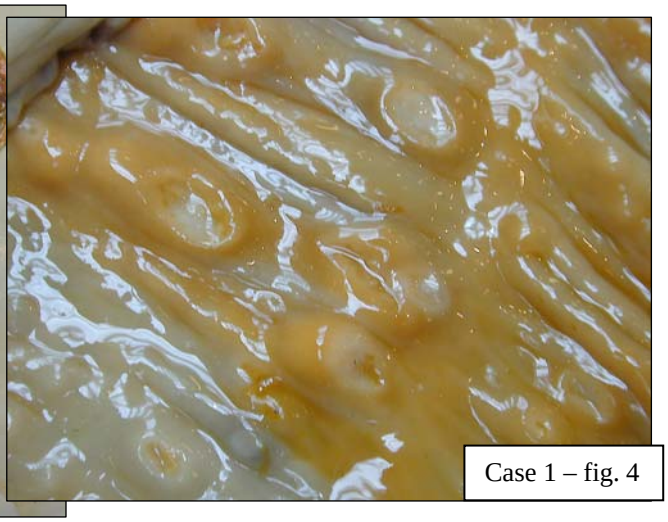
Questions
The slide is from the lung. In this slide, there is a lot of autolysis making structures more difficult to see. Focus on the exudate in alveoli.

Beginner: Can you recognize normal lungstructures? See if you can recognize the inflammatory cells filling the alveoli.

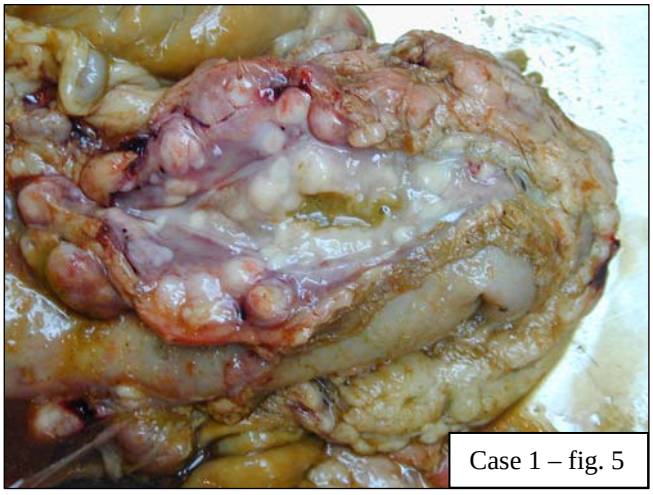
Advanced: Describe the lesion.Which kind of exudates is the lesion dominated by? What is the pathoanatomical diagnosis? What is the most likely pathogen in this case?



Case 1 – fig. 3



Case 1 – fig. 4



Case 1 – fig. 5

Case 1:
Figure 1: Right lung
Figure 2: Right lung with a transverse cut
Figure 3: Colon ascendens. Figure 4: Close up of figure 3
Figure 5: Mesenteric lymph nodes of colon

References:
McGavin p. 519-520 and 368-369
JKP Vol 2 p. 630-632 and 226

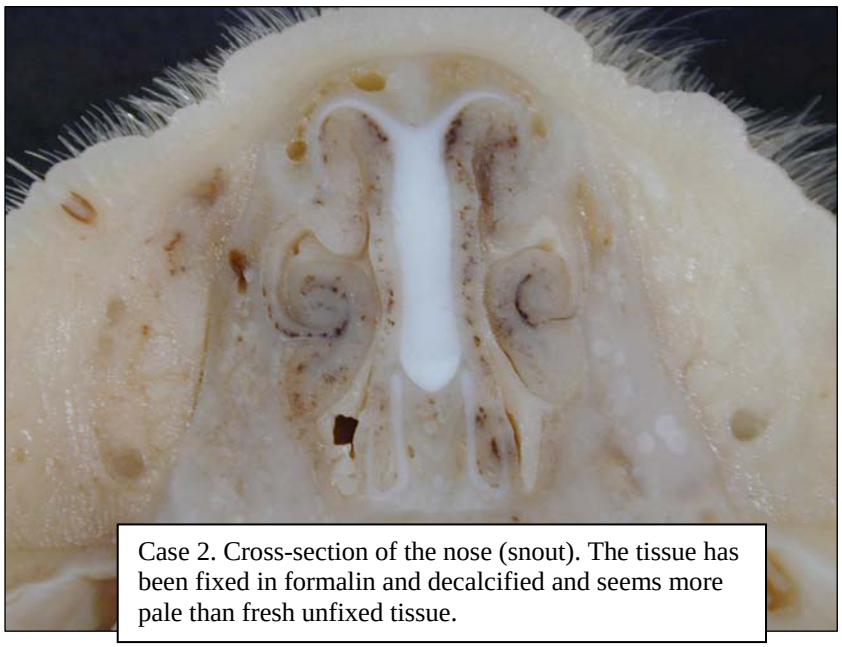
Case 2

Clinical information

In a pig herd, sneezing and coughing was seen in approx. half the pigs in all the litters at 2 weeks of age. A few of the pigs develop respiratory distress and breathe only through the mouth. Usually complete restitution is seen after 5-6 weeks, but the affected pigs are then behind their littermates regarding weight gain. Antibiotic treatment was not effective

Gross lesions

Two pigs, 3 weeks old, were killed and examined.



Case 2. Cross-section of the nose (snout). The tissue has been fixed in formalin and decalcified and seems more pale than fresh unfixed tissue.

The nasal mucosa in both pigs was swollen, hyperaemic and oedematous. A small amount of mucopurulent exudate was seen (see figure).
No other lesions were found.

Questions
Beginner: Enjoy the anatomical structures in the nose. Look closely at the glandular epithelial cells of the submucosal glands, is there something wrong? Try to describe what is wrong.

Advanced: Describe the lesions. What is the pathoanatomical diagnoses? What is the most likely pathogen in this case? What is the name of the disease?

References: McGavin p. 481-482 JKP Vol 2 p.586

Case 3

Clinical information
This cow was taken to the abattoir. The veterinarian at the abattoir reported the case to the police and sent in the head for necropsy.

Gross lesions
The cow was of mixed breed. Loking at the head, the cow had white on the forehead, around the eyes, and on the back of the nose. The ears and cheeks were redbrown.
The head was slightly deformed. The left eye was not visible and in the region, a large deep ulceration-like lesion was seen. Maggots were visible in the ulceration.
Gross lesions are shown in figure 1 and 2

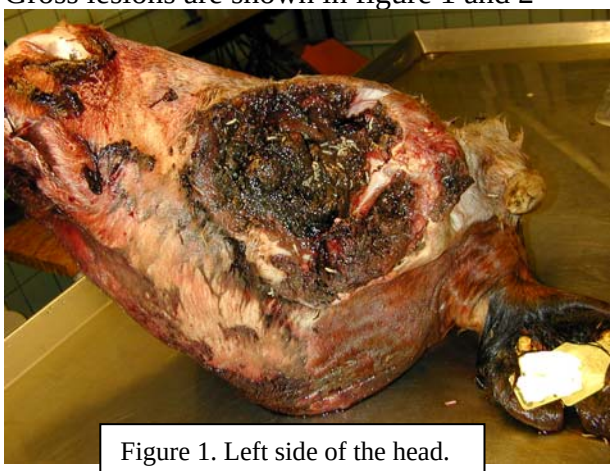


Figure 1. Left side of the head.

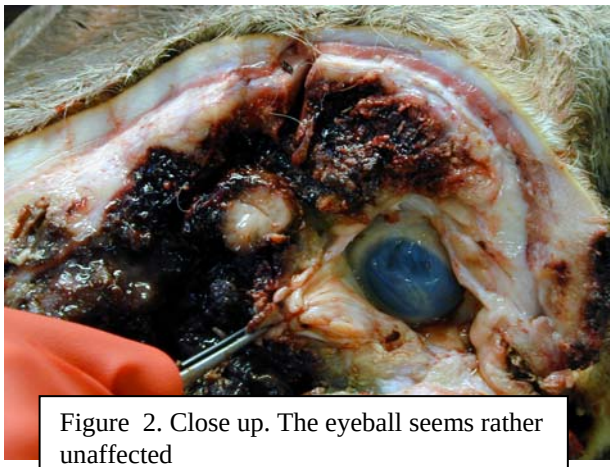


Figure 2. Close up. The eyeball seems rather unaffected

Questions
Beginner: Notice the pattern of neoplastic cells, do they look like a tissue structure you know and which one?

Advanced: Describe the lesion. What is the pathoanatomical diagnosis?

References: McGavin p. 1410-1411 JKP Vol 1 p. 534-535

Looking foreward to some fun hours with you. Best regards, Tine Iburg