

Anatomy of the larynx in breeds of sheep more and less susceptible to laryngeal chondritis

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Introduction

- Laryngeal chondritis (“*Texel throat*”) is an acute upper respiratory tract disease affecting the arytenoid cartilage of the larynx in sheep (Figures 1 & 2)
- Existing literature focuses on the disease in rams and suggests that certain breeds, such as the Texel, are predisposed
- The cause of “*Texel throat*” is unknown, although Lane et al (1987) suggest anatomical factors may predispose the breed
- The aim of this project is to assess the difference between the laryngeal anatomy of breeds of sheep more and less susceptible to laryngeal chondritis.

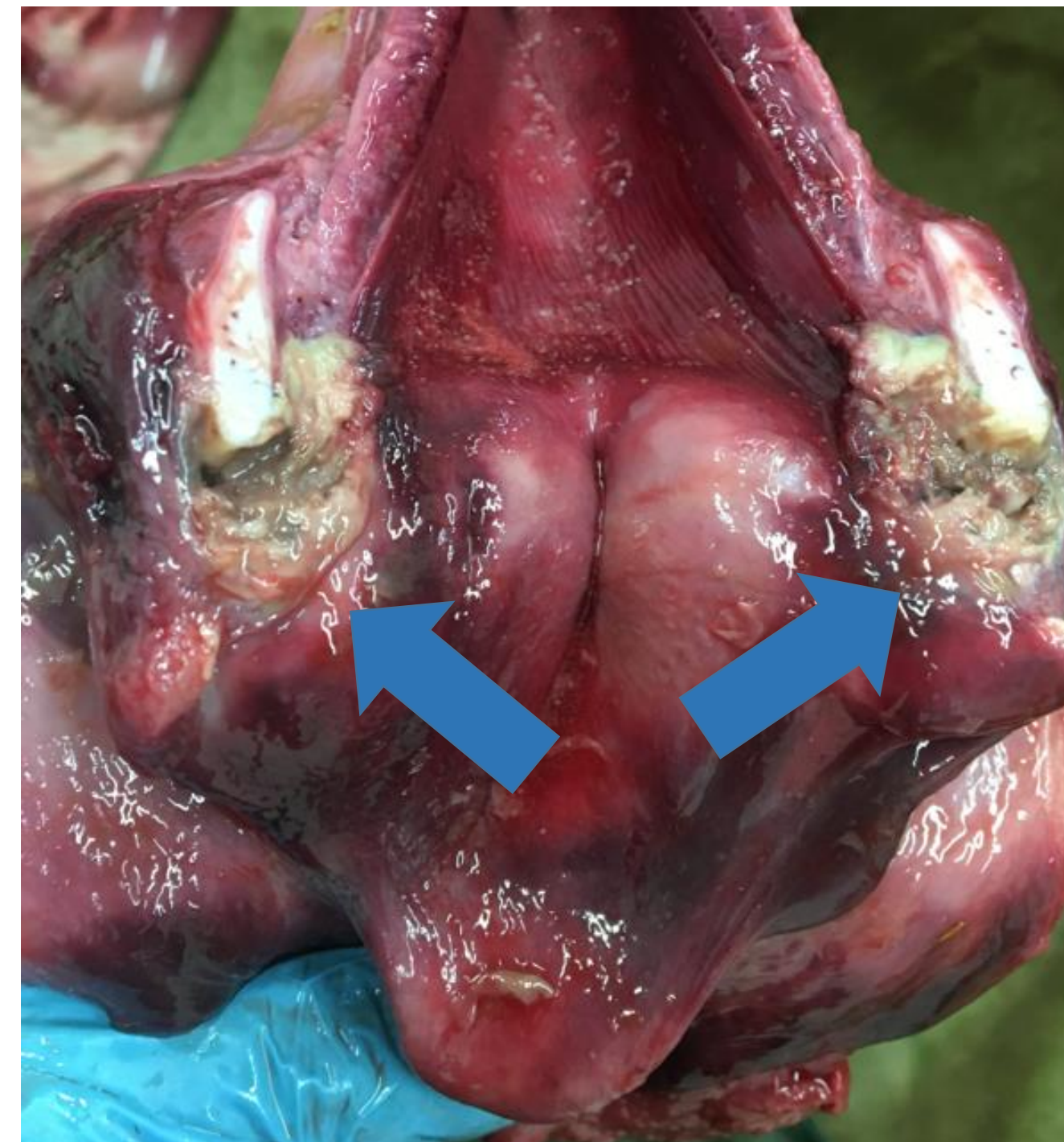


Figure 1. Necrosis of the laryngeal cartilage (arrows) in the larynx of a ram (Photo: Ben Strugnell)

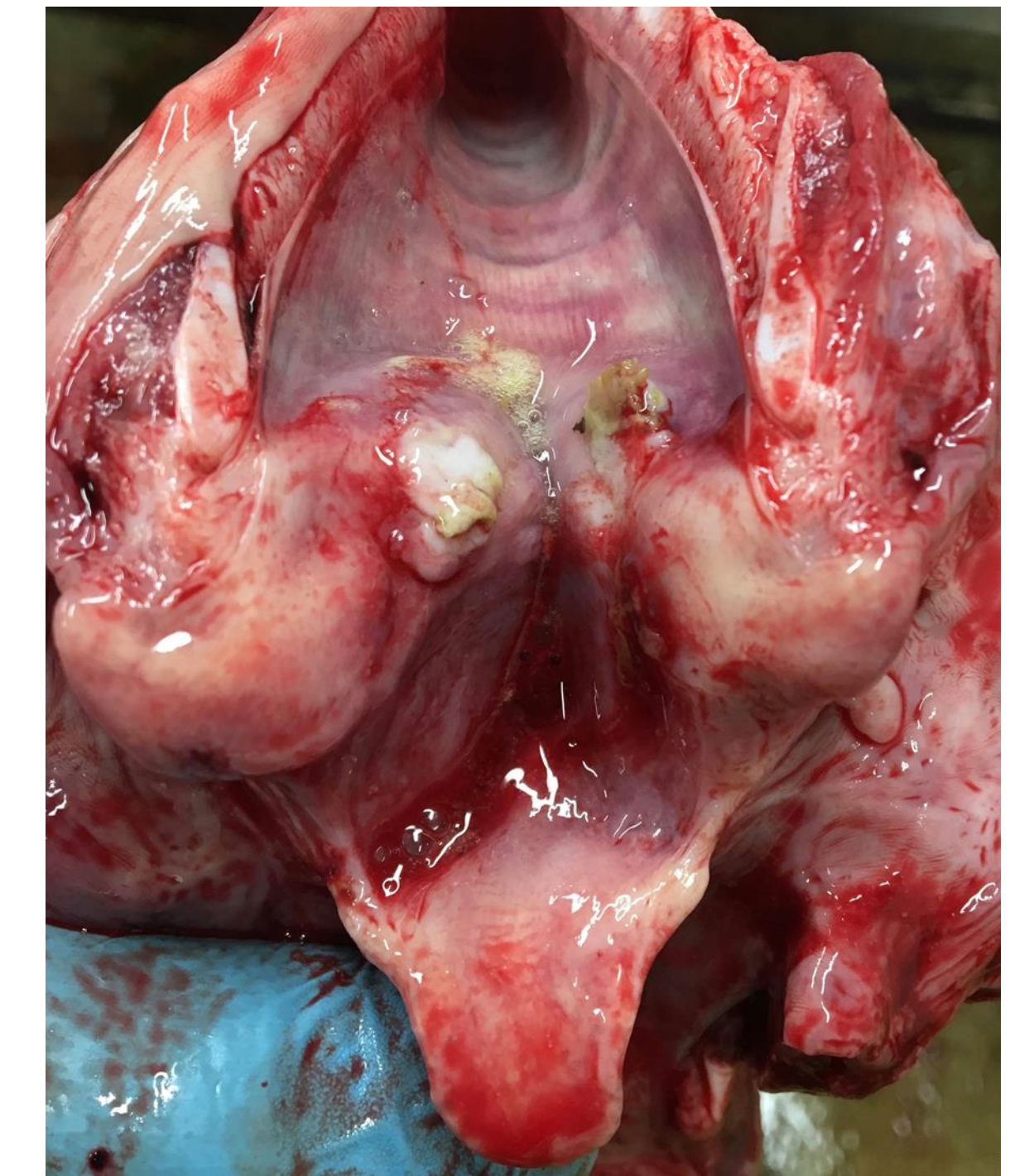


Figure 2. Abscess formation and oedema in the larynx of a ram (Photo: Ben Strugnell)

Materials and methods

- 30 larynges will be collected from fallen stock Texel rams and compared with 30 larynges from rams of the Swaledale breed
- Age, breed, weight and body measurements of the rams will be recorded
- Larynges will be fixed in 10% neutral buffered formalin
- Measurements will be taken on the fixed specimens including the width and length of the larynx (Figure 3)
- Images will be taken of some larynges using a CT scanner (Figure 4) and further measurements will be taken
- Histology will also be performed (Figure 5)
- Statistical analyses will be conducted to compare laryngeal measurements between breeds whilst accounting for confounders.

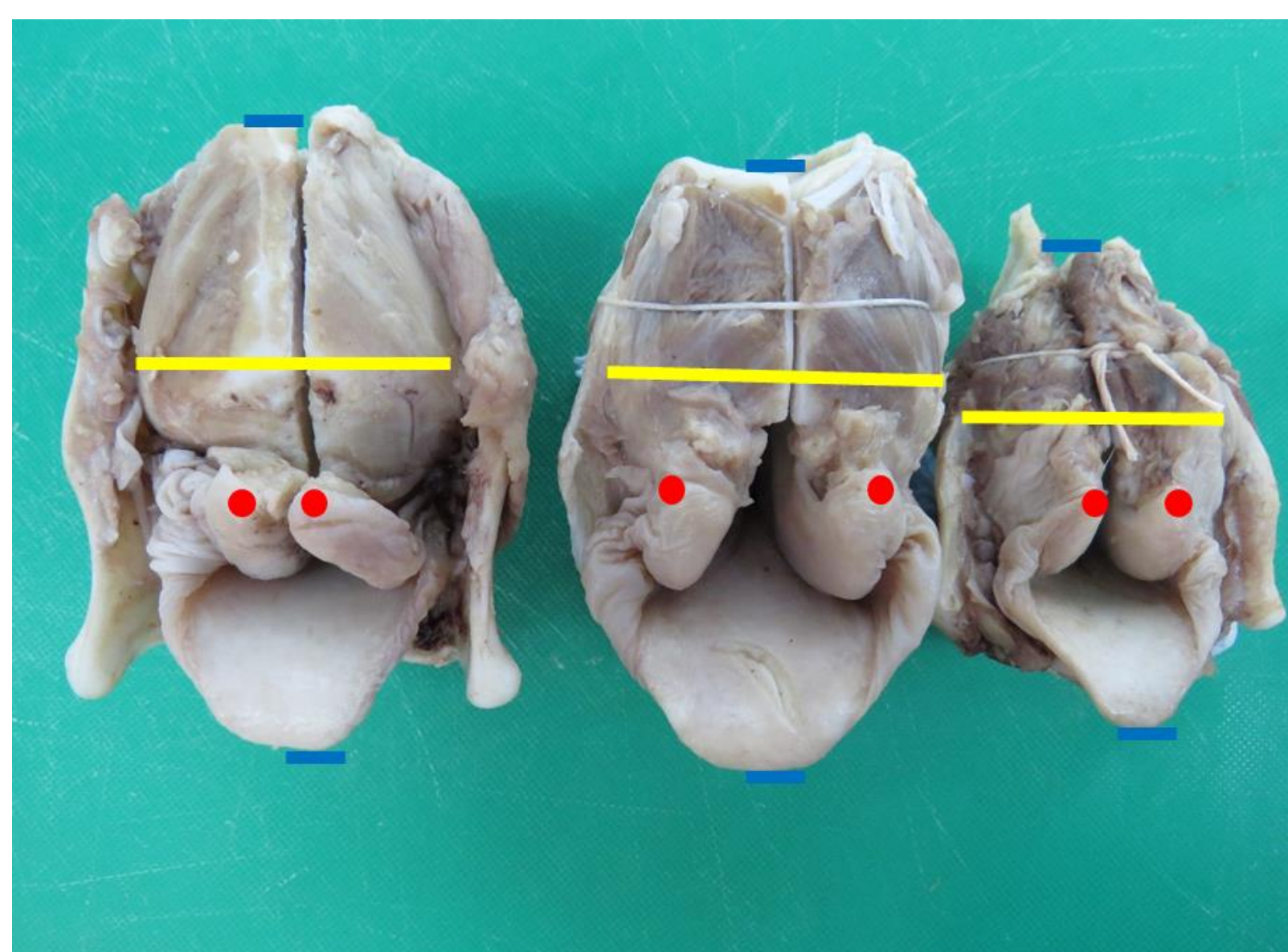


Figure 3. Formalin fixed larynges showing some measurements that will be taken



Figure 4. A CT image at the level of the larynx (CT image: SAC)

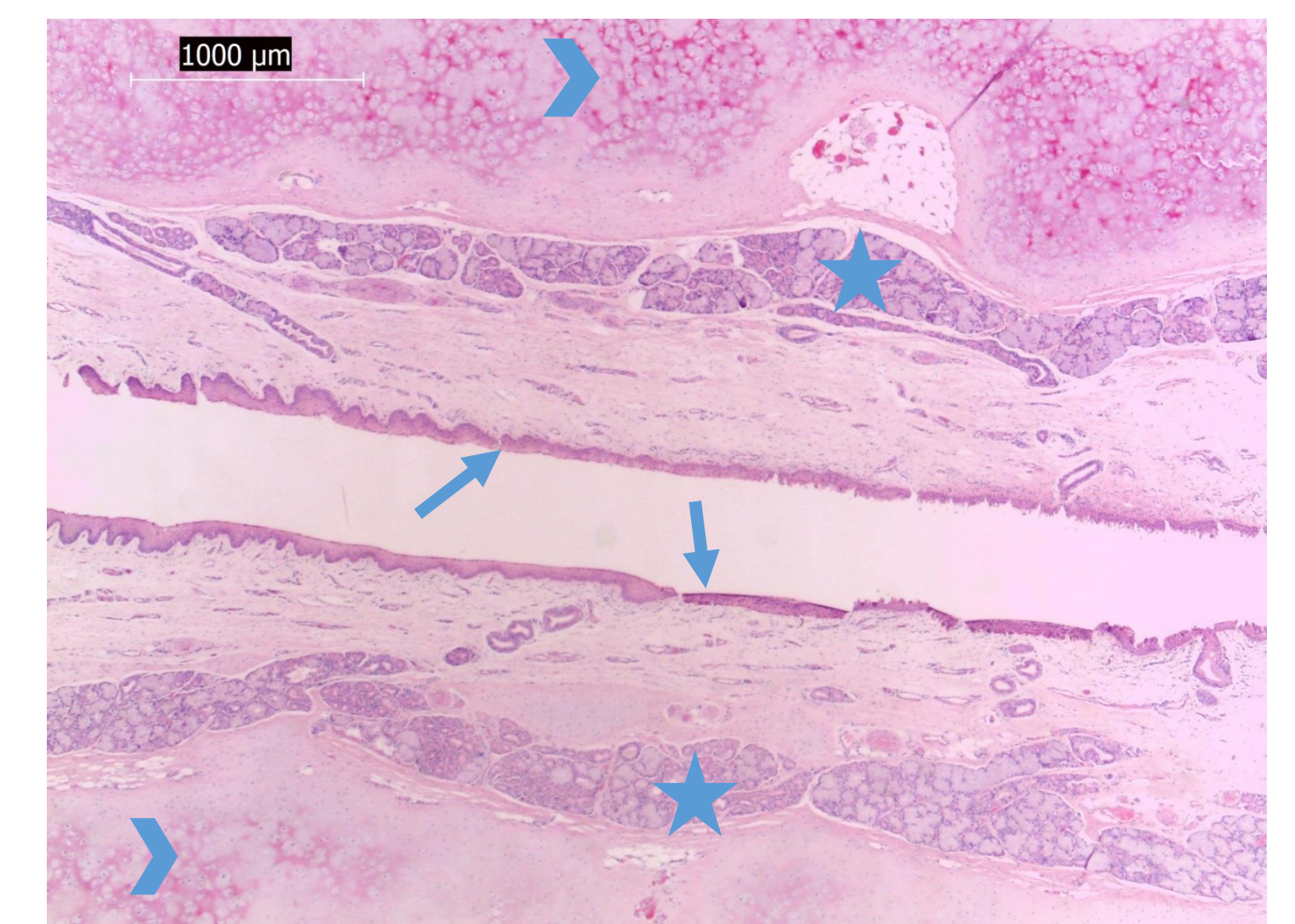


Figure 5. Histology of the larynx showing the epithelium (arrows), the cartilage (arrow heads) and the glands (stars)

Relevance

- Laryngeal chondritis has been reported since the 1940s, and yet the cause remains unknown
- The lesions lead to acute respiratory signs which often results in death of the animal. The disease therefore has an impact on the health and welfare of the affected sheep, as well as the economics of the farm
- This project hopes to explore how anatomical differences may affect disease susceptibility

References

Lane, J.G. et al., 1987. Laryngeal chondritis in Texel sheep. *Vet Rec*, 121(4), pp.81–4.

About

Katie Waine is doing an AHDB/MSD Animal Health funded clinical training scholarship (residency) in farm animal veterinary pathology.

She spends half her time based at the University of Nottingham Veterinary Pathology Service and half her time at Farm Post Mortems Ltd.

While at Farm Post Mortems Ltd she works alongside Ben Strugnell conducting post mortems on a high caseload of mainly cattle and sheep.

While at Nottingham she receives training in gross and histopathological techniques and is preparing for the European College of Veterinary Pathology Board certifying examinations, which she hopes to sit in February 2020.

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