



The Work-Up

Diagnostic Services Unit | Issue 17 - March/April, 2025

Inside this Issue

Spotlight: Mai Farghaly

Cache Valley Virus in sheep

Salmonella in sheep

Chlamydia abortus in sheep

Yersinia pseudotuberculosis in
cattle

DSU Announcements

Holiday Closures:

Easter: April 18-21, 2025 (inclusive)

The DSU Parasitology Lab is now accepting small ruminant fecal samples for testing! We will also perform pooled fecal floats. Please visit the DSU website for updated submission forms and sampling guidelines.

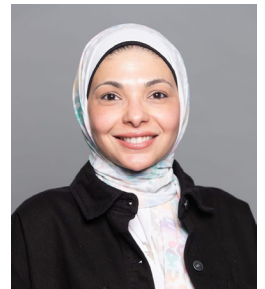
Please contact us prior to submitting a legal or insurance case. See Tips and Tricks at the end of the newsletter for more information.

The DSU is excited to welcome Dr. Nicole Rose, anatomic pathologist, to the team!

The DSU Cytology Service is closed until further notice. All cytology submissions will be sent out during this time.

SPOTLIGHT

Mai Farghaly is the supervisor of the DSU Bacteriology Laboratory. She graduated from the Faculty of Science, Chemistry and Microbiology department, Alexandria University in 2004 and obtained a post-graduate diploma in Microbiology in 2006. She started her career as a Medical Laboratory Specialist after getting her license to practice the profession from the Ministry of Health in Egypt in 2006. Afterwards, she obtained her license as a Microbiology Specialist from the Saudi Commission of Health Specialists. Mai has many years of experience as a Medical Laboratory Specialist and a Microbiologist in Egypt and Saudi Arabia. She has been a Registered Microbiologist (RM CCM) at the Canadian College of Microbiologists since 2017. At UCVM, she completed her MSc of Veterinary Medical Sciences (Bacteriology) degree in 2020 and joined the Diagnostic Services Unit in January 2021.



Cache Valley Virus caused severe congenital deformities and abortion in a group of lambs. Congenital deformities affected both the CNS and musculoskeletal systems and included marked scoliosis, arthrogryposis, hydrocephalus, cerebellar hypoplasia, and spinal cords that were reduced in size. Differential diagnoses included Cache Valley Virus and other viral or protozoal infections. PCR testing on lamb tissues confirmed the diagnosis of Cache Valley Virus. Cache Valley Virus is spread by mosquitoes and appears to be emerging in Alberta. The disease can affect humans, but only through mosquito bites, not from exposure to an affected animal. However, given the number of zoonotic diseases that cause abortions in small ruminants, caution should always be used when handling aborted tissues.

Salmonella ser. IIIb:61:k:1,5,7 caused a bacterial abortion of a lamb in a commercial wool flock. The multiparous ewe had lost her lambs the previous year as well but did not show any clinical signs prior to abortion. On histopathology,

the fetus had a bacterial bronchopneumonia, suggestive of bacterial placentitis, although placenta was not submitted for exam. *Salmonella* was isolated from the fetus' lung, liver, and abomasal fluid. *Salmonella* abortion in sheep can be sporadic or epizootic and most dams do not show any clinical signs prior to abortion, but may develop fever and diarrhea. Septic metritis may follow the abortion. Fetal and placental lesions include placentitis, fetal bronchopneumonia, and occasionally suppurative hepatitis. This lamb additionally had congenital goiter, which can lead to late term abortions or weak born lambs and warrants review of the ewes' nutrition.



Musculoskeletal and CNS deformities in a fetus affected by Cache Valley Virus.

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Diagnostic Services Unit

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DSU Team

Anatomic Pathologists:

Dr. Jennifer Davies
Dr. Dayna Goldsmith
Dr. Ashish Gupta
Dr. Cameron Knight
Dr. Carolyn Legge
Dr. Nicole Rose
Dr. Jamie Rothenburger
Dr. Katie Waive
Dr. Erin Zachar

Clinical Pathologists:

Dr. Angelica Galezowski
Dr. Catherine Wagg
Dr. Amy Warren (*on leave*)

Microbiologist:

Dr. Beverly Morrison

Parasitologist:

Dr. Sawsan Ammar

Virologist:

Dr. Maria Bravo Araya

Support Staff:

Jim Carlsen
Nancy Coulter
Sandra Damianos
Travis Davidson
Dr. Manga Devi
Dr. Camila Meira
Mai Farghaly
Patrick Fuller
Karan Gadani
Lori Goodbrand
Chloe Ingham
Lilit Karapetyan
Jennifer Larios
Kelsey Lennon
Mel Nicolas
Ciara O'Higgins
Dr. Lindsay Rogers
Sara Skotarek Loch
Melanie Stenner
Emery Ucol

DSU Contact Information

<https://vet.ucalgary.ca/DSU>
E-mail: dsu@ucalgary.ca
Phone: 403-220-2806
Clinical Skills Building
11877 85th Street NW
Calgary AB, T3R 1J3



Chlamydia abortus caused abortions in 3rd trimester ewes in a commercial flock. The ewes exhibited minimal to no symptoms. The aborted lambs were markedly autolyzed, but there was a severe placentitis. Differential diagnoses for the placentitis included bacterial infections such as *Coxiella burnetii*, *Chlamydia abortus*, *Campylobacter* spp., and fungal species. PCR testing was positive for *Chlamydia abortus*, and ancillary testing was negative for the remaining differential diagnoses. This case highlights the importance of submitting placenta in cases of abortion as it greatly increases the chance of reaching a diagnosis.

Yersinia pseudotuberculosis resulted in a nonviable Angus x calf. The herd had 5 abortions in the two months prior with no observed illnesses in the cows. There were minimal changes on gross examination of the calf and placentitis was present. Histopathology confirmed placentitis and revealed hepatic microabscesses and lesions consistent with DIC in the fetus. These changes strongly suggested a bacterial placentitis with fetal septicemia. On culture, *Y. pseudotuberculosis* was isolated from the placenta and fetal tissues. *Y. pseudotuberculosis* is a known abortive agent in cattle, sheep, and goats and is also a zoonotic disease.



Bacterial placentitis, gross and histological (PC: Dr. Katie Waive)



The Organizing Committee is excited to welcome you to ISWAVLD 2025 in Calgary from June 12-14, 2025 for world-class CE right at your doorstep. [Learn more and register now!](#)

Tips & Tricks

There are three types of non-routine cases that can be submitted to the DSU – insurance, medicolegal, and criminal-legal. Each of these require additional documentation by the case pathologist and thus incur additional charges. It is strongly recommended to contact the DSU prior to submitting an insurance or medicolegal case. *Contact with the DSU is **REQUIRED** prior to submitting a criminal-legal case as they involve special protocols for transfer of samples.*

Insurance Case: Cases involving an animal that was insured against loss.

Medicolegal: Cases involved in disciplinary proceedings, for example, a complaint to the Alberta Veterinary Medical Association (ABVMA), or a civil legal case dispute, such as a dispute with a breeder.

Criminal-legal: Cases that are identified as being criminal in nature and require police or RCMP involvement. A police officer, RCMP, or SPCA contact must be included on the submission form.