Overview/description

Let's break through that biofilm

Biofilms are communities of microorganisms that adhere to a surface and produce a protective extracellular matrix. This matrix protects the organisms from desiccation, the immune system, and antimicrobials, potentially making the bacteria more resistant to treatment with antibiotics. Within biofilms, bacteria also share characteristics, including antimicrobial resistance, complicating infection management, and necessitating additional treatment strategies. During this webcast, **Dr. Charlie Pye** will review biofilm formation, key characteristics, and effective treatment options to help you manage challenging infections in your patients.

Speaker's bio and credentials

Charlie Pye, BSc, DVM, DVSc, Dipl. ACVD

Dr. Charlie Pye received her Doctorate of Veterinary Medicine from the Atlantic Veterinary College. She then moved to Saskatoon for a rotating internship at the Western College of Veterinary Medicine. Following her internship, she travelled back for a Dermatology Residency at the Ontario Veterinary College. While at OVC, she also completed her Doctorate of Veterinary Science degree specializing in bacterial biofilms. After passing boards she began working at Guelph Veterinary Specialty Hospital, a private referral practice in Ontario; also travelling back to Prince Edward Island to teach the veterinary students a few times a year. As of May 2018, she joined the team at the Atlantic Veterinary College as an assistant professor and established the first-ever Dermatology service at AVC. She has lectured all over North America and has contributed to multiple journals and textbooks. She is also currently the treasurer for the Canadian Academy of Veterinary Dermatology.

Questionnaire

1. **What is a biofilm?**

   - A community of bacteria that moves around from surface to surface
   - A community of bacteria that are attached to a surface and encased in an extracellular matrix
   - A documentary about different bacterial species
   - Viruses that attack and penetrate bacterial cells

2. **Which of the following surfaces have bacteria been documented to form biofilm on?**

   - Teeth
   - Catheters
   - Surgical implants
   - All of the above

3. **On cytology, if a biofilm has formed, you may see the following:**

   - Bacteria surrounded by “veil-like” background staining
   - Bacteria and neutrophils that are too numerous to count
   - Bacteria will not be noted as the biofilm is surrounding them
   - Sheets of keratinocytes with occasional bacteria

4. **Bacteria within a biofilm can be more resistant to antibiotics due to:**

   - Excess of nutrients which leads to rapid cellular growth
   - Higher oxygen levels within the biofilm
   - Overproduction of efflux pumps in the cell wall
   - Bacteria in biofilms are not more resistant to antibiotics

5. **Which of the following treatments has not been shown to be effective at disrupting/preventing biofilm formation?**

   - Bacteriophages
   - Microsilver
   - Saline
   - TrizEDTA

6. **True or False. Bacteria begin to produce extrapolymeric substances (EPS) when they irreversibly attach to a surface.**

   - True
   - False

7. **True or False. Pseudomonas aeruginosa does not form biofilms.**

   - True
   - False

8. **Ophytrium has which of the following properties?**

   - Limits biofilm formation
   - Limits adhesion of bacteria
   - Strengthens the skin barrier
   - All of the above

9. **True or False. A biofilm forming in the external ear canal can act as a perpetuating factor in otitis development.**

   - True
   - False

10. **True or False. Bacteria within a biofilm are more susceptible when the biofilm is disrupted.**

    - True
    - Fasle

PERSONAL INFORMATION:

First name: _____

Last name: _____

Type: _____

(Veterinarian, Technician)

Licence number: _____

Province where you practise: _____

Email: _____

CERTIFICATE OF COMPLETION

Educational webcast

Let's break through that biofilm

Presented by

Charlie Pye, BSc, DVM, DVSc, Dipl. ACVD

This document confirms that

Dr. Lorem Ipsum

has viewed the above-mentioned webcast and has answered and submitted the questionnaire meant to evaluate the understanding of the content.

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