

Canine Pyoderma

Pyoderma

- Generalised superficial pyoderma
- Generalised deep pyoderma
- Chin pyoderma
- Skin fold pyoderma

Introduction

- Pyoderma can be a primary disease or secondary disease.
It can be secondary to
 - ① Parasitic dermatitis (Demodex, Sarcoptes)
 - ② Hypersensitivity (atopy, flea bite, food)
 - ③ Endocrinopathy (Hypothyroidism, Hyperadrenocorticism)
 - ④ Immunosuppressive therapy (steroids)
 - ⑤ Autoimmune/immune mediated disease
 - ⑥ Trauma / bite wound
- Causative organisms
 - most common [
 - ① Staphylococcus pseudintermedius
 - ② Staphylococcus schleiferi
 - ③ E.coli
 - ④ Proteus spp.
 - ⑤ Klebsiella spp.
 - ⑥ Streptococcus spp.

Clinical Signs

SUPERFICIAL

- ① Affects hair follicle & epidermis
- ② Papular dermatitis
- ③ Papule → pustule → crusts & scales
- ④ Moth eaten patchy alopecia (short coat breeds)
- ⑤ Variable pruritus
- ⑥ Epidermal collarette

DEEP

- Ⓐ Entire hair follicle is affected.
- Ⓑ Cellulitis & Furunculosis
- Ⓒ Drainage tracts

Diagnosis

- ① Cytology → Impression smear of skin/pustule → Neutrophil and bacterial cocci.
- ② Dermatohistopathology
- ③ Bacterial culture

Treatment

A Underlying cause identification & treatment

B Systemic Antibiotics -

Principles
of A/b use

- Minimum therapy period - 3 to 4 weeks (Superficial)
6 to 8 weeks (Deep)
- Should be continued 1 week & 2 weeks beyond complete clinical & cytologic resolution for superficial & deep pyoderma respectively.
- Avoid using Fluoroquinolones as resistance to one quinolone may result in resistance to all quinolones.
- Avoid subtherapeutic dosing.

First Line A/b

- ① Cefadroxil @22mg/Kg q8-12hr
- ② Cefpodoxime @5-10mg/Kg q12-24hr
- ③ Cefovecin @8mg/Kg SC
- ④ Cefalexin @30mg/Kg q12hr
- ⑤ Clavulanated Amoxicillin @22mg/Kg q12hr
- ⑥ Ormetoprim/Sulfadimethoxine @55mg/Kg day 1
@27.5mg/Kg q24hr
- ⑦ Trimethoprim/Sulfadiazine @22-30mg/Kg q12hr

Second Line A/b

- ① Chloramphenicol @30-50mg/Kg q8hr
- ② Clindamycin @11mg/Kg q12hr
- ③ Erythromycin @10-15mg/Kg q8hr

- C** Concurrent bathing every 2-7 days with antibacterial shampoo (chlorhexidine/benzyl peroxide)
- D** For Deep pyoderma - crusts should be loosened, exudates should be removed, warm water soaks.
- E** If lesions don't completely resolve, better to go for culture and sensitivity.
- F** If antibiotic sensitivity resistance is suspected?
 - Frequent bathing
 - Simultaneous administration of two classes of antibiotics
 - Culture & sensitivity

Research Articles

- 2011 Spain Study on antimicrobial resistance in urban population
78% - at least one antibiotic
32% - multiresistant
10.4% - Methicillin resistant
- 2012 London Effectiveness of systemic antimicrobial treatment
- | <u>Superficial</u> | <u>Deep.</u> |
|-----------------------------------|-----------------|
| ① Cefovecin | ① Pradofloxacin |
| ② Amoxicillin + CA | ② Cefadroxil |
| ③ Clindamycin | ③ Cefovecin |
| ④ Cefadroxil | |
| ⑤ Trimethoprim - Sulfamethoxazole | |
| ⑥ Ormetoprim - Sulfadimethoxine | |
- 2013 India Efficacy of anti-staphylococcal protein P128. P128 is expressed in E.coli. It has lytic activity on S. pseudintermedius. It can be used in MRS.
- 2018 London (1) TOPICAL THERAPY
It can be effective as the sole anti-bacterial treatment in superficial pyoderma. Shampoo/Cream/Gel/Foams/Ointments containing 2-3% Chlorhexidine or benzyl peroxide.
- (2) SYSTEMIC THERAPY -
"as little as possible but as much as necessary"
Fluoroquinolones should only be used after culture & sensitivity test.
- Glycopeptides, Linezolid & newer antibiotics should be reserved for human use.

2019	USA	<p>Topical Sodium Hypochlorite / Salicylic Acid</p> <p>3 times a week for 4 weeks</p> <p>Evaluated between 2nd to 4th week</p> <p>Significant improvement was found.</p>
2019	India (Mathura)	<p>Antibiotic Resistance Study</p> <p>Max Susceptibility - Amoxicillin + CA Cephalexin</p> <p>Max Resistance - Oxytetracycline</p>
2020	London	<p>Topical antimicrobials</p> <p>3-4 weeks</p> <p>solely for superficial pyoderma</p>
2022	USA	<p>Rifampicin (@ ≤ 6 mg/kg/day)</p> <p>used along with topical antimicrobials</p>
2022	Italy	<p>Use of Fluorescent Light Energy (FLE)</p> <p>FLE Bulb + Systemic Antibiotic</p> <p>FLE - twice a week - till total resolve</p> <p>Avg time taken - 3 weeks</p>
2022	Thailand	<p>Piper betel leaf extract can be used.</p>