CASE REPORTS
SKIN INFECTIONS – PART 1
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Period of reference:
October–December 2012
INTRODUCTION

Skin infections and wounds account for a large majority of conditions encountered in clinical practice. A skin or wound infection occurs when the amount of bacteria grows larger than the animal's immune system is able to handle. The therapy of choice will be local and/or systemic antibiotic treatment.

The ideal antibiotic should (Noli, 2003)*:
- have an antibacterial spectrum that includes Staphylococcus pseudintermedius
- reach the skin at high concentration
- be bactericidal
- have few or no side effects, even if used for long periods or at high dosage
- be easy to administer, i.e., orally, once or twice daily
- not cause bacterial resistance, even if used in repeated courses of treatment

Veraflox® is the first next-generation veterinary fluoroquinolone antibiotic with unique dual targeting of two key enzymes in bacterial DNA replication (DNA gyrase and topoisomerase IV).**

Veraflox®
- has enhanced activity against Gram-positive bacteria relative to 1st and 2nd generation fluoroquinolones
- is rapidly bactericidal against S. pseudintermedius
- achieves rapid clinical remission in canine deep pyoderma
- proved significantly more effective than amoxicillin/clavulanic acid at preventing pyoderma relapses***
- has the lowest MPC (Mutant Prevention Concentration) value of all veterinary fluoroquinolones****
- is safe and easy to administer

CLINICAL CASE 1

German shepherd with deep pyoderma

DR. ANTONELLA VERCELLI, DR. LUISA CORNEGLIANI

EXAMINER

Clinician: Dr. Antonella Vercelli, Dr. Luisa Cornegliani
Specialization: Dipl CESDerm (Fr), Dipl ECVD
Clinic name: Ambulatorio Veterinario Associato (AVA)
Address: Torino, Italy

PATIENT SIGNALMENT

Species: Dog
Breed: German shepherd
Gender: Male
Age: 7 years
Weight: 36 kg

INITIAL VISIT

Patient history
- German shepherd deep pyoderma diagnosed when he was 3 years old
- Many treatments with different antibiotics in the past 4 years: only partial improvements
- Last antibiotic treatments administered: cephalexin, cefovecin, and enrofloxacin with no results
- The dog was referred for a second opinion

Blood examination
- CBC with left shift; T4 and TSH normal; other biochemical parameters also within normal limits
- IFAT Leishmania negative
- All other dermatological tests negative

Physical examination
- Poor physical condition. Hyperthermia reported during last 6 days
- Skin lesions after clipping. Many deep fistulae and ulcerations with perilesional hyperpigmentation are detectable. The lesions were present all over the body, but they were most severe on the back.

Cytology
- All the samples were stained with Diff Quick™. They showed a pyogranulomatous infiltrate with rare intracytoplasmatic bacteria (cocci)

BACTERIAL CULTURE

Staphylococcus intermedius group (SIG)

ANTIBIOGRAM

<table>
<thead>
<tr>
<th>Antibiotic</th>
<th>Susceptibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amoxicillin/clavulanic acid</td>
<td>S I R</td>
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<tr>
<td>Cephadroxil</td>
<td>S I R</td>
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<td>S I R</td>
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<tr>
<td>Cefovecin</td>
<td>S I R</td>
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<td>S I R</td>
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<td>Oxacillin</td>
<td>S I R</td>
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<tr>
<td>Pradofloxacin</td>
<td>S I R</td>
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</table>
### DIAGNOSIS

**German shepherd deep pyoderma**

### TREATMENT

- Pradofloxacin 3 mg/kg per os sid
- Shampoo with chlorhexidine 4%, once a week
- Daily topical treatment with Povidine Iodine desinfection and Silver Sulfadiazin
- Diet: Eukanuba intestinal

### FOLLOW-UP VISITS

**Follow-up visit 1**
- Normothermia, improvement of general health condition

5 days after initiating therapy, there was a mild decrease in exudation and pain.

**Follow-up visit 2**
- Normothermia, further improvement of general health condition
- Pradofloxacin 3 mg/kg per os sid administered for two more weeks
- Chlorhexidine 4% shampoo every two weeks

At the final follow-up visit no residual skin lesions were detected with complete regrowth of hair.

**Follow-up visit 3**
- No primary skin lesions left

### COMMENTS

Number of days of Veraflox® treatment until cure:

- **40 days**

**OTHER COMMENTS:**

**Maintenance:** Hypoallergenic diet, chlorhexidine 4% shampoo every two weeks

### CONCLUSION

- Deep pyoderma caused by a multiresistant *Staphylococcus intermedius*
- Partial or no improvement with most antibiotics used
- Cure with pradofloxacin after 40 days of treatment
CLINICAL CASE 2
Lurcher with superficial pyoderma secondary to atopic dermatitis
DR. PAUL S. COWARD

EXAMINE R

PATIENT SIGNALMENT

<table>
<thead>
<tr>
<th>Species</th>
<th>Canine</th>
<th>Age</th>
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</thead>
<tbody>
<tr>
<td>Breed</td>
<td>Lurcher</td>
<td>Weight</td>
<td>23 kg</td>
</tr>
<tr>
<td>Gender</td>
<td>Male neutered</td>
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</tbody>
</table>

Clinician Dr. Paul S. Coward
Specialization Veterinary Dermatology
Clinic name Dr. Paul S. Coward Veterinary Dermatology
Address Verwood Dorset BH31 6BL, United Kingdom

INITIAL VISIT

Patient history
Pruritus and recurrent ventral pyoderma
- Treated with repeated courses of antibiotics and a hypoallergenic diet trial
- Diagnosis of superficial pyoderma secondary to atopy
- Intradermal allergy testing: multiple positive results
Treatment with extended course of oral cephalexin and allergen-specific immunotherapy. Dog otherwise well.

Physical examination
- Ventral pruritus
- Papular rash ventral abdomen and groin despite extended course of cephalexin (49 days) at appropriate dose and twice weekly washes with chlorhexidine-based shampoo (Microbex)

BACTERIAL CULTURE
1. Staphylococcus pseudintermedius
2. Bacillus species

ANTIBIOGRAM BACILLUS spp.

<table>
<thead>
<tr>
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</table>
**DIAGNOSIS**

Superficial pyoderma secondary to atopic dermatitis

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**TREATMENT**

- Veraflo® 60 mg 1.5 tablets once daily
- Chlorhexidine-based wash twice weekly continued (Microbox)
- Allergen-specific immunotherapy commenced

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**FOLLOW-UP VISITS**

**Follow-up visit 1**

- Pyoderma lesions resolved
- Pruritus reduced but still present
- Continue immunotherapy and twice weekly chlorhexidine-based washes

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**COMMENTS**

Number of days of Veraflo® treatment until cure: 27 days

**OTHER COMMENTS:**

Whilst the culture suggested the Staphylococcus was sensitive to cephalaxin, the response to therapy was poor. The bacillus was resistant so the antibiotic was changed to Veraflo® and a good response was seen.

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**CONCLUSION**

- Secondary superficial pyoderma refractory to conventional treatment
- Caused by resistant Bacillus spp.
- Complete cure after 27 days of pradofloxacin treatment
**Clinical Case 3**

**Labrador with pyotraumatic furunculosis**

**Dr. Emmanuel Bensignor**

### Initial Visit

**Patient History**
- Severe and acute facial pruritus. The dog receives a monthly spot-on treatment against fleas and is fed a good quality diet (Purina Derm). He has a history of atopic dermatitis well controlled with the diet and regular application of rehydrating spot-ons or lotions.

**Physical Examination**
- Focal lesions at the basis of the left ear: alopecia, erythema, erosions. The lesion is thickened in the center with nodular lesions in the periphery, sometimes fistulated typical of furunculosis.

**Cytology**
- Numerous inflammatory cells: polymorphonucleated neutrophils and macrophages, red blood cells and a few 'coccobacilleous' bacteria.

**Scraping**
- No parasites visible.

### Examinations

**Bacterial Culture**

1. *Staphylococcus pseudintermedius*

**Antibiogram**

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**Examiner**

- **Clinician**: Dr. Emmanuel Bensignor
- **Specialization**: Diplomate ECVD
- **Clinic Name**: Alfort Vet School
- **Address**: Paris, France
**DIAGNOSIS**

Pyotraumatic furunculosis

**TREATMENT**

- Veraflo® 3 mg/kg/d (one 120 mg tablet/day)
- Topical treatment with Chloriseptine 0.2% twice daily

**FOLLOW-UP VISITS**

**Follow-up visit 1** (Fig. 1) \(\text{day 12}\)
- Net improvement: 75% reduction of pruritus reported by the owner
- Lesions dried up and hair starts to regrowth
- Treatment is continued

**Follow-up visit 2** (Fig. 2) \(\text{day 33}\)
- Complete resolution of pruritus
- Lesions completely healed with a lot of hair regrowth
- Postinflammatory hyperpigmentation can be seen
- Treatment with Veraflo® for 1 additional week
- Topical treatment is continued

**Follow-up visit 3** (Fig. 3) \(\text{day 56}\)
- Complete recovery

**COMMENTS**

Number of days of Veraflo® treatment until cure:

40 days

**CONCLUSION**

- Labrador with facial pyotraumatic furunculosis
- Fast improvement after a few days of pradofloxacin treatment
- Complete cure after 40 days
Veraflox® 15 mg tablets for dogs and cats, Veraflox® 60 mg tablets for dogs, Veraflox® 120 mg tablets for dogs. 
**Content:** Each tablet contains: Pradofloxacin 15 mg; Pradofloxacin 60 mg; Pradofloxacin 120 mg. 
**Dose:** 3 mg/kg b.w. once daily.

**Indications for use.** Dogs: Treatment of wound infections caused by susceptible strains of the *Staphylococcus intermedius* group (including *S. pseudintermedius*), superficial and deep pyoderma caused by susceptible strains of the *Staphylococcus intermedius* group (including *S. pseudintermedius*), acute urinary tract infections caused by susceptible strains of *Escherichia coli* and the *Staphylococcus intermedius* group (including *S. pseudintermedius*), and as adjunctive treatment to mechanical or surgical periodontal therapy in the treatment of severe infections of the gingiva and periodontal tissues caused by susceptible strains of *Porphyromonas* spp. and *Prevotella* spp. Cats: Treatment of acute infections of the upper respiratory tract caused by susceptible strains of *Pasteurella multocida*, *Escherichia coli* and the *Staphylococcus intermedius* group (including *S. pseudintermedius*).

**Contraindications:** Do not use in animals with known hypersensitivity to fluoroquinolones. Dogs: Do not use in dogs during the period of growth as developing articular cartilage may be affected. The period of growth depends on the breed. For the majority of breeds, pradofloxacin-containing veterinary medicinal products must not be used in dogs of less than 12 months of age and in giant breeds less than 18 months. Do not use in dogs with persisting articular cartilage lesions, since lesions may worsen during treatment with fluoroquinolones. Do not use in dogs with central nervous system (CNS) disorders, such as epilepsy, as fluoroquinolones could potentially cause seizures in predisposed animals. Do not use in dogs during pregnancy and lactation. Cats: Due to the lack of data, pradofloxacin should not be used in kittens aged less than 6 weeks. Pradofloxacin has no effects on the developing cartilage of kittens of 6 weeks of age and older. However, the product should not be used in cats with persisting articular cartilage lesions, as these lesions may worsen during treatment with fluoroquinolones. Do not use in cats with central nervous system (CNS) disorders, such as epilepsy, as fluoroquinolones could potentially cause seizures in predisposed animals. Do not use in cats during pregnancy and lactation. Adverse reactions: Mild transient gastrointestinal disturbances including vomiting have been observed in rare cases.

For information on special warnings for each target species, special precautions for use, adverse reactions and interaction with other medicinal products and other forms of interaction see the published SPC. POM. Marketing authorisation holder: Bayer Animal Health GmbH, D-51368 Leverkusen, Germany. International Brochure: Veraflox® may not be available in every country. Registration conditions may differ internationally. Please check the registered SPC in your country. Detailed information on this veterinary medicinal product is available on the website of the European Medicines Agency http://www.ema.europa.eu.