International Journal of Science, Environment and Technology, Vol. 6, No 3, 2017, 2052 – 2055

ISSN 2278-3687 (O)
2277-663X (P)

Clinical Article

THERAPEUTIC MANAGEMENT OF PYODERMA IN A DOG

M.O. Kalim, Rukmani Dewangan*, S.K. Tiwari, Raju Sharda, Dhaleshwari Sahu, Nutan Panchkhande and Shiv Kumar Sidar

Department of Veterinary Surgery and Radiology
College of Veterinary Science & A.H., Anjora, Durg (C.G.)
E-mail: dewanganrukmani@gmail.com (**Corresponding Author*)

Abstract: A 4 year old male Labrador dog was presented with the complaint of severe itching coupled with alopecia around eye region, forelimb, hind limb, abdominal region and was severely debilitated. On clinical examination the dog was showing cutaneous thickening with crusts, scabs and interdigital pyoderma. The skin on head, neck and abdominal region was erythrematous and excoriating on application of little pressure. Pulse, respiration and heart rate were within normal range. Examination of skin scraping revealed no evidence of mites. The dog was treated with Tab Cefpet XL @ 5 mg/kg b.wt. orally O.D. for 6 days, Injection Anistamin (1 ml i/m) for 4 days, injection of Intavita (1 ml i/m) in alternate day for 6 days, three injection of Neomac @ 0.5 ml subcutaneous once in a week. Ascabiol lotion was applied twice daily for 10 days and Micodin antibacterial shampoo was applied once in a week for 3 weeks. The dog showed marked improvement after one week of treatment which was significant in the second week and complete recovery was observed in three weeks time.
Keywords: Cefpodoxime, superficial pyoderma, dog.

Introduction

Pyoderma is one of the most common skin disease of canines (Nesbit and Ackerman, 1998). Based on the depth of infection in skin layers, it is of two types deep pyoderma and superficial pyoderma. In deep pyoderma infection from distal parts of hair follicle extends beneath and beyond the confines of hair follicles (Paradis *et al.,* 2001). The primary pathogen involved in pyoderma is Staphylococcus *spp.* however; other gram negative bacteria are also involved (Reddy *et al.,* 2011). Some breeds like Golden retriever, Dachshund, Beagle, Pointer and Gordon setter are prone to pyoderma (Paterson (2008). The exact cause and pathogenesis of the disease is due to increased susceptibility to Staphylococcus species which mostly proceeds to juvenile cellulitis (Prieur and Hargis, 1982). The lesions are mostly granular and pustular type, erythematous in appearances with crusts in outline. These typical lesions are commonly found on face, around muzzle area and ear pinna. Sometimes it also leads to otitis externa (Miller *et al*., 2013). For treatment of canine pyoderma, antibiotics

*Received May 19, 2017 * Published June 2, 2017 * www.ijset.net*

should be selected based on their good skin penetration ability and spectrum of antibacterial activity. Bacterial organisms and their sensitivity pattern also vary with location (Reddy *et al.,* 2014 a).

Case History and observation

A 4 year old male Labrador dog was presented with the symptoms of severe itching, alopecia around eye region, fore limbs, hind limbs, abdominal region and tail (Figure 1). Weak and debilitated with loss of skin luster. On clinical examination the dog was showing Cutaneous thickening with crusts, scabs, interdigital pyoderma, licking of digits and alopecia. The dog was thoroughly examined clinically for presence of macroscopic lesions and ectoparasites. Laboratory examination was carried out by microscopic examination of glass slide impression smears and skin scrapping. Direct microscopic examination of skin scrap from both dog and his owner did not reveal presence of mites or fungal spores. Then samples were processed further for bacterial culture and antibiotic sensitivity. Commercially available antibiotics including amoxycillin, amoxyclav, ampicillin, cefpodoxime, ceftriaxone and penicillin-G were used for antibiotic sensitivity test.

Laboratory Examination and Diagnosis

Direct microscopic examination of skin scrap from both dog and his owner did not reveal presence of mites or fungal spores. Then samples were processed further for bacterial culture and antibiotic sensitivity. Commercially available antibiotics including amoxycillin, amoxyclav, ampicillin, cefpodoxime, ceftriaxone and penicillin-G were used for antibiotic sensitivity test. Gram positive cocci in clusters were detected on bacterial culture, which were suggestive of staphylococci. In AST Staphylococcus isolate was highly sensitive to cefpodoxime and ceftriaxone; intermediate sensitive to amoxyclav whereas resistant to other antibiotics used.

Treatment and Discussion

As the bacterial isolates were sensitive to cephalosporins, therapeutic regimen for Labrador dog included oral administration of cefpodoxime (Tab Cefpet XL) @ 5 mg/kg b.wt**.** orally O.D. for 6 days and after 2 days gap, given for next 10 days, Inj Anistamin 1 ml i/m for 4 days, Inj Intavita 1 ml i/m for 6 days, Inj Neomac 0.5 ml s/c Once in a week for 3 weeks, topical application of Ascabiol lotion for 10 days and Micodin shampoo weekly for 3 weeks Figure 2, 3, 4). Basic structural features of their skin make canines more susceptible to skin infections. Empirical diagnosis of pyoderma was based on history and physical examination followed by complimentary tests, such as skin scraping and culture test. Treatment usually

involves antimicrobial drug therapy on the basis of antibiotic sensitivity test. Cephalosporins are often used to treat canine skin infections because of their broad antimicrobial spectrum, established safety profile and reasonable cost. Cefpodoxime, an oral third generation cephalosporin having good effect for superficial and deep pyodermas due to its once daily administration sets it apart from other oral cephalosporin used in veterinary medicine (Reddy *et al*., 2014 b). In the present study we used external application of shampoo and vitamin supplement as supportive therapy. Use of topical therapy (Micodin shampoo) assisted faster recovery in dog suffering with pyoderma. The clinical condition discussed above was diagnosed as superficial pyoderma based on the symptoms and culture examination and was treated successfully.

Summary

In the present case, staphylococci were detected as etiological agent in canine pyoderma as well as in the dog owner, which supports the possible zoonotic infection of staphylococci from dog to human being. Cefpodoxime alongwith supportive therapy was very successful for the treatment of Canine pyoderma. Routine bacterial culture and sensitivity test must be carried out before initiation of any therapy which not only treats the case but also avoids development of antibiotic resistance.

References

[1] Miller, W.H. Jr., Griffin, C.E. and Campbell, K.L. (2013). Muller and Krik's small Animal Dermatology. 7th ed., Elsevier Publication, p. 708-09.

[2] Nesbit, G.H. and Ackerman, L.I. (1998). Canine and Feline Dermatology – Diagnosis and Treatment, Veterinary Learning System, Trenton, NJ, USA.

[3] Paradis, M., Abbey, L., Baker, B., Coyne, M., Hannigan, M., Joffe, D., Pukay, B., Trettien, A., Waisglass, S. and Wellington, J. (2001). Evaluation of the clinical efficacy of marbofloxacin (Zeniquin) tablets for the treatment of canine pyoderma: An open clinical trial. *Vet. Dermatol* **12**: 163-69.

[4] Paterson, S. (2008). Manual of skin diseases of dog and cat., 2nd ed, Blackwell publishing, p. 296-97.

[5] Prieur, D.J. and Hargis, A.M. (1982). A severe form of canine juvenile pyoderma with an inherited component. Fed Proc Fed Am Soc Exp Biol. 41:696.

[6] Reddy, B.S., Kumari, K.N. Rao, V.V. and Rayulu, V.C. (2011). Cultural isolates and the pattern of antimicrobial sensitivity of whole cultures from recurrent pyoderma in dogs. *The Indian J. field Vets* **7**: 40-42.

[7] Reddy, B.S., Kumari, K.N. and Sivajothi, S. (2014 a). Antimicrobial sensitivity of gram negative bacteria isolated from recurrent pyoderma in dogs. *Adv. In Appl. Sci Res.* **5**:241-43.

[8] Reddy, B.S., Kumari, K.N., Rao, V.V., Rayulu, V.C. and Sivajothi, S. (2014 b). Efficacy of Enrofloxacin in the Treatment of recurrent pyoderma in dogs. *Adv. Vet. Res.* **4**:108-12.

Figure 1: Affected dog showing alopecia and erythematous lesion on head, neck, leg and abdominal region.

Figure 2: 1st week after treatment, the size of area of alopecia was significantly reduced under the eye, body and limb.

Figure 3: 2nd wek after treatment, the dog was showing significant improvement with almost loss of areas of alopecia.

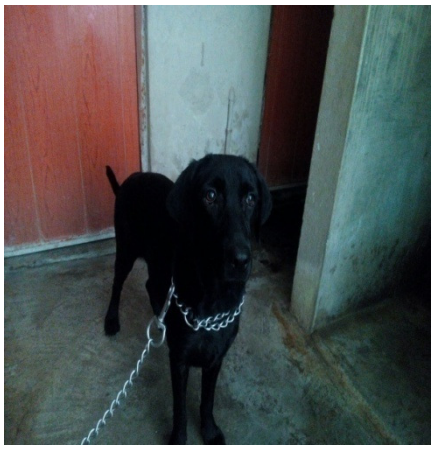

Figure 4: 3rd week after treatment the dog showed complete recovery with shiny hair coat, no alopetic lesions and hairs re-grown on the lesions.