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RESEARCH ARTICLE

SUCCESSFUL MANAGEMENT OF MULTI ETIOLOGICAL ABSCESS IN INDIAN MONITOR LIZARD (*VARANUS BENGALENSIS*)

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ABSTRACT

Adult male Indian Monitor Lizard (*Varanus bengalensis*) was presented with a swelling on the both fore limb near the site of distal end of radius bone and metacarpal region in Snake Park of Rajiv Gandhi Zoological Park and Wildlife research Center Katraz, Pune. Palpation of swelling indicated that it might be abscess hence opened it was pasty pus. Swab was processed for antibiotic sensitivity test. Cavity was cleaned with Hydrogen Peroxide liq and applied Calendula liq. Cultural examination revealed presence of *Citrobacter freundii Complex & Klebsiella oxytoca*. According to susceptibility abscess was treated with antibiotic cefotaxim @ 20 – 40 mg/kg body weight, anti-inflammatory inj. Melonex @ 0.4 mg/kg body weight and regular dressing. The wound was start healing and complete recovery was observed in one month.

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INTRODUCTION

India is rich in species of colourful and fascinating lizards, which are the remnants of a certain ancestral group of reptiles, once widely distributed in much diverse ecological conditions. The common Indian Monitor is a medium-sized, dark brown monitor. It is popularly known as ghorpad (Tikader and Sharma, 1992).

Case history and Observation

Adult male Indian Monitor Lizard (*Varanus bengalensis*) was presented with a swelling on the both fore limb near the site of distal end of radius bone and metacarpal region (Fig. 1) in Snake Park of Ragiv Gandhi Zoological Park and Wildlife research Center Katraz, Pune. The lizard was dull from one week and off feed. Clinical examination did not reveal any other diseases. Palpation of the swelling indicated that this could be a matured abscess; the lesion was opened and found pasty pus (Fig. 2), after sampling for bacteriological analysis and antibiotic sensitivity test, would cavity was rinsed with antiseptic betadine solution. A swab of an abscess capsule was inoculated on Nutrient agar for cultural identification and after incubation two types of colonies grew. Isolates were subsequently identified as *Citrobacter freundii* complex and *Klebsiella oxytoca.* The antibiotic susceptibility test of the isolated bacteria to antibiotics was carried out by Microscan Walkaway 40 Automated system. The result of antibiotic susceptibility test was documented in Table 1. The isolate *Citrobacter freundii* complex was susceptible to all antibiotics except ampicilin where as *Klebsiella oxytoca* was resistant to ampicilin, ampiciln sulbactam and cefazolin to other antibiotics isolates were susceptible.

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TREATMENT AND RESULTS

According to susceptibility abscess was treated with antibiotic cefotaxim @ 20 – 40 mg/kg body weight for 10 days, anti-inflammatory inj. Melonex @ 0.4 mg/kg body weight for 3 days and regular dressing with rinsing of abscess capsule with Hydrogen Peroxide solution and application of calendula liq with Negasunt powder Mader (1996). The wound was start healing and complete recovery was observed over a treatment period of approximately one month (Fig. 3).

DISCUSSION

The lizards are often considered as source of many pathogens (Kaura and Singh, 1968; Gupta, 1980) Source of bacteria may either be environment, and lizards might acquire them horizontally from air, water, food and contacts or bacteria may be acquired vertically from mother (Bhojraj Singh *et al*., 2014). Bacteria identified from pus sample in the study have also been reported earlier from faecal dropping and in intestinal contents of geckos a species of lizard family including *Citrobacter freundii* and *Klebsiella oxytoca* (Singh *et al*., 2013).

Table 1. Antibiotic Susceptibility Test results to different antibiotics by *Citrobacter freundii* Complex and *Klebsiella oxytoca*

S.No.	Name of Antibiotic	*Citrobacter freundii Complex*	*Klebsiella oxytoca*
1	Ampicillin Sulbactam	Susceptible	Resistant
2	Amikacin	Susceptible	Susceptible
3	Ampicillin	Resistant	Resistant
4	Ceftazidime	Susceptible	Susceptible
5	Cefotaxime	Susceptible	Susceptible
6	Cefoxitin	Susceptible	Susceptible
7	Cefazolin	Resistant	Resistant
8	Ciprofloxacin	Susceptible	Susceptible
9	Cefepime	Susceptible	Susceptible
10	Cefuroxime	Susceptible	Susceptible
11	Ertapenem	Susceptible	Susceptible
12	Gentamicin	Susceptible	Susceptible
13	Imipenem	Susceptible	Susceptible
14	Levofloxacin	Susceptible	Susceptible
15	Meropenem	Susceptible	Susceptible
16	Piprazin/Tazobactum	Susceptible	Susceptible
17	Trimethoprim/Sulpha	Susceptible	Susceptible
18	Tetracycline	Susceptible	Susceptible
19	Tobramycin	Susceptible	Susceptible

Fig. 1. Swelling at distal end of radius bone and metacarpal region

Fig. 2. Pasty pus from wound cavity

The isolate separated from pus sample was resistant to ampicillin and sensitive to cefotamix. The results were in general agreement with the earlier researcher (Singh *et al*., 2014), noted that All *Klebsiella* and half of the *Citrobacter* strains isolated from egg samples of geckos were resistant to ampicillin while majority of klebsiellae were resistant to nitrofurantoin. However, little is known about bacteria present in abscess of Indian monitor lizard and their potential origin. In the present study abscess formation was happen might be due to environmental contamination of small unknown injury occurred in past. We demonstrated that such an infection can be effectively treated with cefotaxim and topical application of calendulla liquid with neosporine powder.

Fig. 3. Monitor lizard after complete recovery with disappearance of swelling

Conclusion

To our knowledge, this is the first report of an abscess treatment in a Indian Monitor Lizard (*Varanus bengalensis*) and the first to demonstrate the effective treatment of *Citrobacter freundii* and *Klebsiella oxytoca* induced infection by a combination of cefotaxim, callendullaliq and neosporine powder locally.

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