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Acinetobacter mammitis in a Great Dane bitch and its managements

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Abstract

A 1.5 year old Great dane bitch was brought to Department of Veterinary Medicine, TVCC, RIVER with a history of whelped a single puppy 50 days back and enlargement of left cranial abdominal, left and right caudal abdominal mammary glands with watery milk for past 3days. Bacteriological culture revealed *Acinetobacter* species. It was found sensitive to imipenem, doxycycline, ciprofloxacin, cefotaxime, amoxicillin, amoxicillin clavulanic acid, cefpodoxime, gentamicin, cefixime and ceftriaxone. The dog was treated with cefotaxime @ 30mg/kg body weight for 5 days B.I.D. Swelling of mammary gland reduced and animal recovered after 5 days of treatment.

Keywords: Mammitis, dog, culture, *Acinetobacter*, Cefotaxime

1. Introduction

Mammitis represents the inflammation of the mammary gland tissue (Boden, 2005) [3]. Can affect one or more sections of the glandular tissue or one or more mammary glands. Mammary infections can be acute and life threatening (Johnston *et al.*, 2001) [8]. *Staphylococcus pseudintermedius* and *Streptococcus canis* are actual chief pathogens in dogs and cats (Weese, 2008) [12]. It has been recommended that bacteria isolated from the mammary gland and vagina are liable for neonatal infections (Sager and Remmers, 1990) [10] *Acinetobacter* species are abundant in environment and have remained in soil, water, animals and humans (Doughari *et al.*, 2011) [4].

The genus *Acinetobacter* comprises of severely aerobic, gram negative coccobacilli, nonmotile, rods, Catalase – positive, Indole and Oxidase – negative, Non-fermentative (Allen *et al.*, 2006) [1]. Utmost strains of *Acinetobacter* can develop in usual culture media. *Acinetobacter* spp. has a natural tendency to develop antibiotic resistance extremely and rapidly. *Acinetobacter baumannii* also appeared to be the predominant pathogenic species in dogs and cat (Francey *et al.*, 2000) [5].

2. Case history and observation

A 1.5 year old Great dane bitch was brought to Department of Veterinary Medicine TVCC, RIVER with a history of whelped a single puppy 50 days back and enlargement of left cranial abdominal, left and right caudal abdominal mammary glands with watery milk for past 3days. On clinical examination rectal temperature was 39.6°C, pink conjunctival mucous membrane, normal palpable lymph node, hard, hot and painful mammary gland evinced on palpation. The milk collected from the mammary gland was watery in consistency. Microbiological analysis - Bacteriological culture of milk revealed *Acinetobacter* species. Antibiotic Sensitivity Test – Sensitive to imipenem, doxycycline, ciprofloxacin, cefotaxime, amoxicillin, amoxicillin clavulanic acid, cefpodoxime, gentamicin, cefixime and ceftriaxone.

3. Treatment and Discussion

The dog was treated with cefotaxime @ 30mg/kg body weight for 5 days b.i.d. Nimesulide gel was applied over the gland. Swelling of mammary gland reduced and animal recovered after 5 days of treatment.

Acinetobacter is an evolving adaptable pathogen in veterinary medicine. The incidence in animals and humans similarly raises concern about whether the bacteria can spread from animals to humans or whether the animals must attained the bacteria from humans. The incidence of genotypically correlated, antimicrobial drug resistant *Acinetobacter* strains in

hospitalized animals recommends that these bacteria are most probable nosocomial pathogens for animals (Sabrina *et al.*, 2011)^[9]. *Acinetobacter* an opportunistic pathogen responsible for nosocomial infections with considerable morbidity and mortality in hospitalized human patients. Dogs and people live in close contact risk of bacteria transfer from one to the other are high (Wedley *et al.*, 2011)^[11].

Transfer of milk pathogens from humans to bitch milk is therefore possible. Extra care should be provided when handling puppies and the bitch's mammary glands by owners and veterinary staff. Laboratory test should become the gold standard when veterinary specialists start to manage mammary gland infections (Eckersall *et al.*, 1999)^[6] Antiseptics we can use to clear the pathogens - Chlorine dioxide and betadine (James *et al.*, 2006)^[7]. Veterinary clinics face an excessive challenge concerning anticipation, control and management of infections with these organisms, related to circumstances in human hospitals. In conclusion, the probability of spread from humans to animals or vice versa needs special consideration (Sabrina *et al.*, 2011)^[9].



Fig 1: Enlargement of left cranial, left and right caudal abdominal mammary glands affected by *Acinetobacter*

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