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## Myositis in German shepherd dog and its management

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### Abstract

A German shepherd dog of 7 years age was presented with a local swelling on the right arm region near scapula, edematous swollen right limb and lameness. On physical examination swollen area has crepitating sound with fluid filled inside it. Fine needle aspiration shows presence of serosanguineous fluid with foul smell in it. Laboratory investigation reveal normal blood profile with increased total leucocytes count, Creatinine kinase enzymes and Neutrophilia. Microscopical examination of fluid smear shows presence of Gram positive rods and gram negative Cocci. Culture results shows antibiotic sensitivity to Amoxicillin and streptomycin. Dog was treated with Cefpodoxime+ Clavunic acid along with supportive therapy and modified Robert Jones bandage for 3 days with insignificant results.

Addition of Meteronidazole and Amoxicillin+ Clavunic acid from 4th day significantly improve the wound healing and lameness in dog. The clinical and microscopical findings and treatment responsive to Amoxicillin + Metronidazole suggestive of myositis and myonecrosis caused by anaerobic gram positive gas producing long Rods- *Clostridium Sp.*

**Keywords:** *Clostridium Sp.*, Serosanguineous, lameness, Creatinine kinase, Myositis, Myonecrosis, Robert jones Bandage

### Introduction

A German shepherd dog of age 7 year was presented with a swelling on right leg below scapula. The dog is reluctant to move and has difficulty in sitting. The corresponding leg has edematous swelling downwards the swollen area till paws. The swollen area appears fluid filled with crepitating sound on external examination. However only a mild pain is present on palpation. External examination reveals a fluid filled pocket on the right arm below scapula.

### History and Clinical findings

On presentation the dog was having rectal temperature of 102.40F. lameness and reluctant towards motion. History reveals that lameness and edematous swelling appears 1 days back. The dog has partial loss of appetite and dark color urination. On palpation a hard but fluid filled pocket was observed with crepitating sound. Fine needle aspiration of swollen pocket show presence of serosanguineous foul smelling fluid in the pocket. The fluid was collected by sterile tube and sent to culture and antibiotic sensitivity test. A thin smear of fluid was made and the sent to laboratory for further investigation. 5ml of blood was collected and sent to laboratory for complete blood profile investigation.

### Laboratory findings and Diagnosis

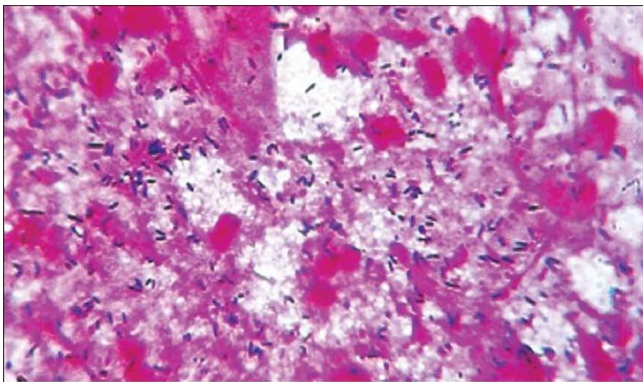
The examination of smear stained with gram stains shows presence of bacteria mainly Gram positive Rods species and few gram negative Cocci. Antibiotic sensitivity test shows positive sensitivity for Meteronidazole, Amoxicillin and Streptomycin. The blood profile shows elevated total leukocyte count to 23000/u/l, Creatinine kinase to 204 u/l, and Neutrophilia 92 %, however liver function test and kidney function test were normal. Elevated level of Creatinine kinase and total leukocyte count reveals Myositis leading to myonecrosis caused by gas producing gram positive anaerobic bacteria. Dog has persistent rectal temperature of 102-1030F, dullness and partial loss of appetite.

### Treatment & Management

At the time of presentation dog was treated by giving RL (ringer lactate) 400ml intravenously (i.v), Ceftriaxone+ Salbectum @ 20mg per kg body weight (per/kg bw.), Inj. Melonex 1.5ml

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i.v, Meteronidazole 100ml and Tribivet 2ml iv. Modified Robert Jones Bandage was done on affected legs to reduced edematous swelling and sent home with advised oral medication with Cefpedoxime+clavunic acid (325mg) tablet B.D, Melonex oral suspension 3-4 drops B.D for 3 days. On 4thday the dog was presented with no considerable improvement in condition. Considering the laboratory culture report, blood profile and antibiotic sensitivity treatment was planned accordingly. The local swelling (abscess) was drained by giving stab incision. Serosangivenous fluid was drained out and wound was washed with Povidone iodine 2% solution. A 15 cm long and 3cm wide gauge piece soaked in lixen powder (Ceflexine powder) was placed inside the wound and whole leg was bandaged by modified RobertJones bandage covering wound. Dog was kept on intravenous medication as Amoxicillin+ Clavunic acid (600mg) B.D, Meteronidazole 100ml B.D, Melonex 1ml B.D, Pentaprazole 20mg B.D and Tribivet 2ml B.D for 3 days. In three days of treatment there is marked reduction in swelling and overall condition of wound. Marked healing of wound and improvement in limping gait occurred in 3 days. The dog was kept on oral medication with Amoxicillin+clavunic acid 325mg TID, Meteronidazole 400mg B.D and Verol Syrup (Multivitamins syrup) 10 ml B.D for next 5 days. Complete healing of wound occurred after oral medication.



### Discussion

The main causative agents of wounds in muscular area which leads to myositis and myonecrosis (gas gangrene) in animals are Gram Positive gas producing anerobic bacteria- long Rods mainly *Clostridium sp.* These bacterial affects the G.I tract and large muscles leads to gastroenteritis myositis and myonecrosis that occurs as local swelling with crepitating sound. The same is reflected in serum biochemistry test as elevated level of Creatnine kinase enzymes that occurs due to destruction of muscle fibers. Increased total leukocyte count and

Neutrophillia also suggestive of Bacterial infection and local inflammatory reactions.

Meteronidazole is drug of choice in anerobic gas producing bacterial infection. Amoxicillin has good affinity towards Gram positive bacteria. Anti-inflammatory drugs should be used in as supportive therapy. Draining of wound is essential to remove the infiltrated serosangivenous fluid for effective healing of wound. Clostridial myonecrosis (gas gangrene) is a life-threatening muscle infection that develops either contiguously from an area of trauma or hematogenously from the gastrointestinal tract with muscle seeding. Early recognition and aggressive treatment are essential.

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