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Sphingomonas paucimobilis Septic Arthritis Post COVID- Case Report

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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Case Report

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ABSTRACT

In the current pandemic of Covid 19, and its treatment has changed the entire presentation of other diseases. In this pandemic on covid 19 the treatment of covid has deranged the immune status of many and has facilitated emergence of rare bacterial infection. *Sphingomonas paucimobilis* is a rare cause of infection in clinical setting but covid or its treatment has cause emergence of relatively rare infections.

A 59 year old lady came to outpatient department with complaints of pain right hip since 1 month and limping. On evaluation she was found to have intra osseous abscess with septic arthritis of hip caused by *Sphingomonas Paucimobilis*, with timely intervention an appropriate antibiotic therapy full recovery was possible.

In this era of Covid 19 pandemic every symptom should be considered significant and evaluated and appropriate diagnosis and timely intervention is crucial to prevent catastrophic complications.

Keywords: Covid 19; septic arthritis; Sphingomonas paucimobilis; osteomyelitis; infection.

1. INTRODUCTION

Sphingomonas paucimobilis is an emerging opportunistic bacterium with a particular affinity toward Musculoskeletal system. It is a gram-negative rod that can infect both immunosuppressed and immunocompetent individuals. Outcome of infected patients is

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generally good, but rarely morbidity and mortality cases have both been reported. In this pandemic on covid 19 the treatment of covid has deranged the immune status of many and has facilitated emergence of rare bacterial infection. Among *S. paucimobilis* nosocomial infections, osteomyelitis is particularly rare [1]. We report a case of *Sphingomonas paucimobilis* septic arthritis in a post covid individual.

2. CASE REPORT

A 59 year old lady came to outpatient department with complaints of pain right hip for 1 month and limping. She was apparently normal one month back when she had experiencing the pain. No history of fever/constitutional symptoms.No history of trauma. She had Covid infection 3 months back (category 3) which was managed with supportive care including steroids.(Methyl prednisolone infusion of 80 mg/day in 240 mL normal saline at 10 mL/h for 8 days followed by oral 20 mg IV twice daily until CRP returns to < 20% of normal range and/or PaO2:FiO2 > 400 or SatHbO2 ≥ 95% (For 3 weeks)).

Her medical history revealed she had Type 2 diabetes mellitus which was well controlled.

On clinical evaluation she had a antalgic gait with normal passive range of movement which was terminally restricted due to pain and spasm. Systemic examination was normal.

Blood panel showed white blood cell count of 7.9K/ul CRP – 32 ESR 44.

Her radiographs were within normal limits but MRI showed bone marrow oedema in right femoral head and neck with intra osseous abscess associated with joint effusion and mild synovial thickening (Fig. 1), suggestive of osteomyelitis with septic arthritis of the right hip. She was manged surgically with emergency arthrotomy wash out and drainage of abscess, intra operatively cultures were taken and it showed growth of *Sphingomonas paucimobilis* (Fig. 2) sensitive to fluro quinolones. She was started on ciprofloxacin for three months and she improved clinically, blood markers showed decreasing acute phase reactants.

Fig. 1

3. DISCUSSION

Covid infection and its treatment with use of immunosuppressive drugs including steroids has caused emergence of rare pathogenic organism causing unusual presentation of osteomyelitis and septic arthritis. Although it is an organism of low clinical virulence, infection caused by *S. Paucimobilis* can lead to septic shock [2].

Sphingomonas Paucimobilis is a glucose-nonfermenting Gram-negative bacillus that is found in both natural environment and hospitals. This organism has been isolated and cultured from nebulizers, intravenous solutions, ventilators and other hospital devices [3]. Earliest reports have associated *Sphingomonas paucimobilis* with nosocomial infections and/or immunosuppressed patients, but most recent ones showed that the prevalence of this organism in community-related infections and/or immunocompetent hosts has been underestimated [4]. Its susceptibility to other antimicrobial agents including third-generation cephalosporins and fluoroquinolones is variable.

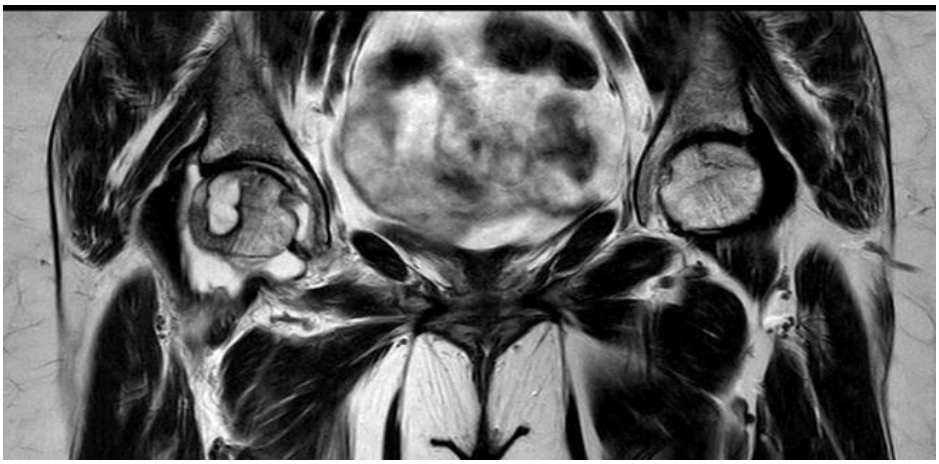

Fig. 1. COVID sepsis

In addition, the organism is usually resistant to penicillins and to first-generation cephalosporins [5,6].

For COVID infections the treatment guidelines are still controversial, the administration of steoids has clinically shown improvement in many [7]. In our case although it is difficult to ascertain whether the covid infection or its treatment had direct influence on the infection with *Sphingomonas paucimobilis*, the occurance of unlikely infection poses a definitive question on the changes on the immune system made by the pandemic and its management.

4. CONCLUSION

Covid infection and its treatment has opened the world to a new era of organisms. Although low virulent organism proper timely diagnosis and timely intervention and appropriate antibiotic can prevent deadly complications in such cases. There are no standardized and recommended for therapies of *S. paucimobilis* infections. Thus, antibiotic treatment rested on clinical experience. The duration of treatment is according to the clinical response of the patients [8]. Larger studies are required to establish the relationship between covid infection or its treatment and emergence of such infections and guideline for its their prevention.

CONSENT

As per international standard or university standard, patients' written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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