

MIGRATORY POLYARTHRITIS: A CASE REPORTDr. Zeenath Unnisa*¹, Mohammed Mudassir² and Nazneen Begum³¹Assistant Professor, Department of Pharmacy Practice, Deccan School of Pharmacy, Hyderabad-500001.***Corresponding Author: Dr. Zeenath Unnisa**

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Article Received on 25/12/2022

Article Revised on 15/01/2023

Article Accepted on 05/02/2023

ABSTRACT

Migratory arthritis is characterized by pain that travels from one joint to another. Migratory arthritis is most common in people who have osteoarthritis (wear and tear on the cartilage that covers the bones in joints), rheumatoid arthritis (an autoimmune disorder in which your body attacks healthy tissues), gout (a type of arthritis caused by crystal build-ups between joints), and lupus (an inflammatory disease in which your immune system attacks your body's joints and tissues). Common causes include inflammatory arthritis including crystal arthropathy and other forms of systemic rheumatic disease such as connective tissue disorders and occasionally infectious agents and systemic lupus erythematosus. The Migratory polyarthritis can be treated by either non-pharmacological therapy or by pharmacological treatment. The arthritis is usually self-limiting and resolves in a few weeks, but NSAIDs and salicylates have been shown to be effective for quick recovery. **Case Report:** The authors present a case of 14 year old male patient admitted in hospital with complaints of fever since 20 days and history of joint pain and swelling. The patient does not have any history of throat pain, cold, cough, vomiting and no allergies. Patient care began after being diagnosed. **Result:** Symptoms were eased, body temperature maintained normally and joint pain & swellings decreases and problems are avoided by the following treatment after 8 days of treatment. **Conclusion:** Migratory Polyarthritis is believed to be related to an autoimmune or infectious process. Treatment typically involves anti-inflammatory medications, rest, and physical therapy. With the right care and management, it is possible for patients to lead an active and healthy life with migratory polyarthritis.

KEYWORDS: Migratory Polyarthritis, Non-Pharmacological therapy, Pharmacological therapy, Anti-inflammatory.**INTRODUCTION**

Migratory polyarthritis is a common presentation with a broad differential diagnosis.^[1] Polyarthritis and fever are clinical manifestations of a diverse spectrum of systemic viral and rheumatic diseases.^[2] Fever is generally continuous or remittent, although it can sometimes be intermittent.^[3] Polyarthritis is a term used when at least five joints are affected with arthritis. One or more signs of inflammation, including pain, movement restriction, swelling, warmth, and redness, are seen in the joints involved. Migratory at the onset of arthritis, initially only one or more joints are involved, which they improve completely after several days. Following this, another joint region is involved, and in this way, polyarthritis occurs gradually. Acute rheumatic fever (ARF) is a typical example of this pattern of arthritis.^[4] Common causes include inflammatory arthritis including crystal arthropathy and other forms of systemic rheumatic disease such as connective tissue disorders and occasionally infectious agents and systemic lupus erythematosus.^[5] ARF is defined by a systemic inflammatory response caused by group A

streptococcus.^[6] This usually manifests itself two to three weeks after a throat infection. Carditis (50% - 70%) and arthritis (35% - 66%) are the most common manifestations.^[7] Polyarthritis caused by rheumatic fever is typically asymmetric, migratory, and affects large joints like the elbows, wrists, knees, and ankles.^[7] The arthritis is usually self-limiting and resolves in a few weeks, but NSAIDs and salicylates have been shown to be effective for quick recovery.^[6] Small joint involvement is rare.^[7] Another option is a one-time dose of intramuscular benzathine penicillin. Erythromycin is the recommended for patients with penicillin allergy. Prophylaxis is recommended to help prevent recurrent episodes of acute rheumatic fever.^[6]

CASE REPORT**History of Present illness:** A 14 year old patient has been admitted to the hospital with a complaint of fever since 20 days.

Past Medical history: The patient has a history of joint pain and swellings. No complaints of throat pain, cold, cough and vomiting has been reported in the past.

Laboratory Test Performed: On the day of admission and based on subjective evidence, the laboratory tests have been performed.(Table:1)

Allergies: No allergies.

Table 1: Laboratory Tests.

Lab Parameter	Result	Normal value
Hb	11.2	13-18gms%
WBC	5700	4000-11000c/cmm
RBC	4.7	4.3-5.7c/mcl
DLC=N+L+E+M+B	34+60+03+03+00	
Platelets	3.23	1.5-4.5 lakhs/cumm
ESR	103mm/1 st hr	0-15mm
CRP	Reactive >9.2	<0.6mg/l
ASO	Reactive >200	<200 IU/M
Culture report:		
Sample : Throat swab (no pathogenic organism isolated)		

The Laboratory tests has been evaluated thoroughly and the findings of the lab report is as follows: Erythrocyte sedimentation rate(ESR) is higher, C- Reactive protein(CRP) and Antistreptolysin O (ASO) are reactive respectively. Based on this lab report and subjective evidence, the physician has identified the possible case of migratory polyarthritis and the treatment for the same is initiated.

Treatment

The main aim of the treatment is to treat the disease, to stabilise the patient and to reduce the fever, joint pains, and swellings.

Treatment options: The Migratory polyarthritis can be treated by either non-pharmacological therapy or by pharmacological treatment.

1. Non-Pharmacological

Nutritional plan: Arthritis is a disease that causes discomfort in one or more joints. Because it worsens with age, it must be treated as soon as possible. A diet for arthritis may help you get rid of the pain. It comprises consuming foods that relieve joint pain. It is advantageous to your health to avoid processed foods and increase your diet of fruits, vegetables, and nuts. Several studies have discovered that the Arthritis diet decreases inflammation-causing molecules while also aiding in weight reduction. Losing weight is also the most effective way to relieve joint pain. The diet also addresses the issues of heart attacks and hypertension. Fish contains omega-3 fatty acids, which aid to decrease inflammation.

Physiotherapy: Physiotherapy is beneficial in the treatment of polyarthritis patients because it helps to alleviate pain and gain mobility for everyday activities. Short-term aims include pain management and deformity avoidance, while long-term goals include improving range of motion, deformity repair, stretching exercises, and strengthening activities.

• **Short-term objective: Management of pain**
There are numerous physiotherapeutic methods for pain management, as shown below:

- (i) **Thermotherapy or cryotherapy:** It reduces pain and improves blood flow; Swelling and edema can be reduced with cryotherapy.
- (ii) **Contrast bath:** First, immerse the resting limb in warm water between 38 and 40 degrees Celsius for ten minutes, then in cold water between 8 and 10 degrees Celsius for one minute. Then, dip the limb for four minutes in hot water before taking a one-minute bath in cold water. Do this three more times, taking 30 minutes to complete the entire procedure. Patients with high blood pressure, open wounds, wounds that have not been treated or are infected, diabetes, poorly managed epilepsy, or hydrophobia should not take a contact bath.
- (iii) **Ultrasound-** In addition to reducing pain, ultrasound has beneficial healing properties. Phonophoresis: It is a method that uses ultrasound and diclofenac gel to reduce pain, reduce swelling, and heal damaged muscle fibers by increasing the movement of intracellular fluid.

• **Long-term objective**

- (i) Improved range of motion can be enhanced using: Passive Motion, Active Assisted Motion, Active Motion
- (ii) Correction of deformities - Deformations can be corrected by using appropriate splints, dynamic splints can assist movement, stretching with bandages is also helpful.
- (iii) Stretching - Stretching helps prevent muscle tension and relieve pain. The muscle is stretched and held for 30 seconds, then relaxed, it helps to improve muscle spasticity. Some of the indicated passages are shown in Figure 1 & Figure 2
- (iv) Strength training - strengthening helps increase muscle strength, can be performed as resistance exercises, can also use PNF techniques.

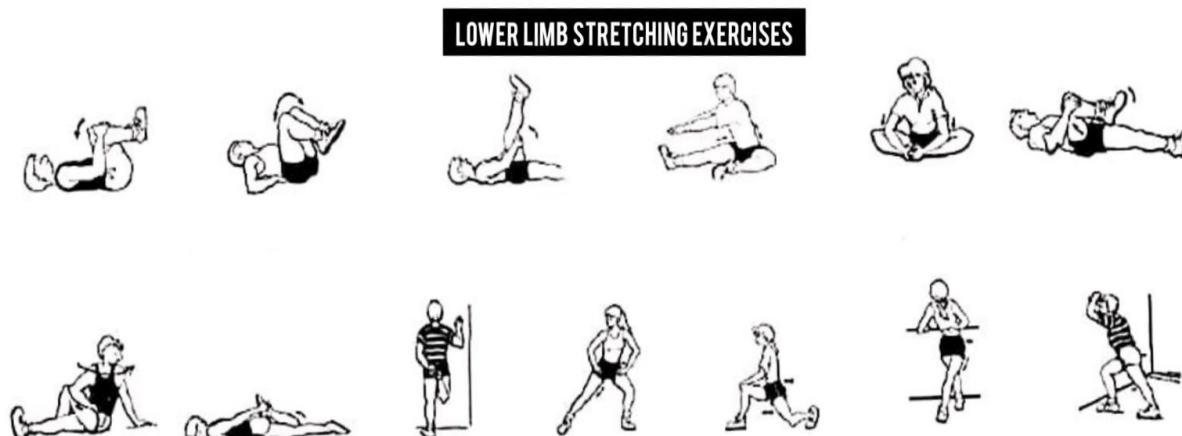


Figure: 1 Stretching exercise for lower extremities.



Figure: 2 Stretching exercise for upper extremities.

2. Pharmacological

Anti-infectives

Amoxicillin: Used to eradicate or prevent Group A streptococcus (GAS) infection, treatment option for patients with penicillin allergy

Benzathine Penicillin G: Given to eradicate streptococci and is the 1st dose of penicillin for secondary prophylaxis, drug of choice for acute rheumatic fever (ARF) patients with confirmed GAS not allergic to Penicillin.

Cephalosporins (Cephalexin, Cefadroxil): Used for the primary prevention and treatment of GAS infection in patients allergic to Penicillin

Macrolides (Erythromycin, Clindamycin, Clarithromycin, Azithromycin, Roxithromycin): Used if patient has documented penicillin allergy. Recommended once there is suspicion of ARF and continue for 10 days or until ARF is diagnosed and Benzathine penicillin G is administered

Phenoxymethylpenicillin (Penicillin V) (Oral): Used to eradicate GAS infection, if present, Start administration once there is suspicion of ARF and continue for 10 days or until ARF is diagnosed and Benzathine penicillin G is administered.

Arthritis

Salicylates and nonsteroidal anti-inflammatory drugs (NSAID): Aspirin, Codeine, Ibuprofen, Naproxen, Paracetamol. It is Used for arthritis or severe arthralgia. Paracetamol is recommended as first-line therapy for ARF arthritis pain. Naproxen is a treatment option for Aspirin. Recommended once ARF is confirmed.

Analgesics: Paracetamol and codeine are used for arthritis or severe arthralgia if ARF is not yet confirmed and patient is still undergoing diagnosis. Patients with mild arthralgia respond well to Paracetamol. Low-dose glucocorticoids may only be considered in patients unresponsive to 1st-line agents.

The intake of various supplements such as glucosamine, chondroitin and omega-3 fatty oils in order to optimize the health of the joints as well as prepare the body to

cope with the pain caused due to migratory polyarthritis. Stopping pain is often the only priority for arthritis patients. But for real relief, it's also important to treat the inflammation that's causing your pain. For immediate pain relief, some doctors may also prescribe topical creams.

Treatment given

- The patient has been given the **Tab. Paracetamol (Dose: 500 mg)** through oral route thrice a day for 8 days in order to treat the fever and to reduce the pains.
- **Inj. Ceftriaxone (Dose: 1mg)** is given for 2 days through intravenous route because its main action is to treat infections of the lungs, ears, skin, urinary tract, blood, bones, joints, and abdomen. Sometimes it is also used in the treatment of relapsing fever, typhoid fever and Lyme disease. After completion of Ceftriaxone course for 2 days, the patient has been asked to take another antibiotic i.e. **Tab. amoxicillin (Dose: 500 mg)** through oral route twice a day. The amoxicillin course is continued till the 8th day. The aim of continuing the antibiotic course is to reduce the pain because the infection is knocked out by the antibiotic.
- To treat symptoms of acid reflux due to hyperacidity, stomach ulcer (Peptic ulcer disease) the patient was administered through oral route with **Tab. pantoprazole (Dose: 40mg)** daily once for 4 days (starting from 4th Day and to till 8th Day).
- The Patient was orally administered with **Tab. Aspirin (Dose: 325 mg)** twice a day for 4 days i.e. from the day 4 to day 8). Aspirin may reduce the risk of developing rheumatoid arthritis (RA) through its effect on cyclooxygenase activity and its anti-oxidant pathways. It may also be used to reduce pain and swelling in conditions such as arthritis.

Day wise assessment

Day 1: On the day of patient admission the temperature was increased (98°F), pulse rate was 80 bpm and heart rate is also increased (102 bpm)., Current vital symptoms of the patient are throat pain, cold, cough, vomiting's, no allergies fever, history of joint pain and swelling, throat pain, cold, cough, vomiting's, no allergies and the patient was suffering from fever since 20 days. Some lab test was performed to find the actual reason and the several tests includes: Complete blood picture, Antistreptolysin O, Erythrocyte sedimentation rate and C-reactive protein. Based on this tests the case of migratory polyarthritis was found and the treatment was initiated.

Day 2: After one day of treatment the health and symptoms of the patient was gradually improving by decreased fever and pulse rate was found to be 72 bpm with the heart rate of 110 bpm. Throat swab culture test was performed.

Day 3: On the third day of hospitalization, the temperature of the patient was found to be normal and the pulse rate is 76 bpm and heart rate was 108 bpm.

Day 4: On the fourth day of hospitalization, the respiration rate of the patient was found to be 16 bpm and pulse rate was 90 bpm with the heart rate of 102 bpm.

Day 5: On the fifth day of hospitalization, the joint pains of the patient was decreased and swelling is reduced. Pulse rate was found to be 86 bpm with the heart rate of 104 bpm but the patient was suffering from hip pain.

Day 6, 7 and 8: The health and symptoms of patient was improved and the temperature, pulse rate (84 bpm) and heart rate (102 bpm) was found to be normal. The patient was stable and no fresh complaints are found. The patient was discharge from the hospital.

DISCUSSION

Migratory arthritis is characterised by pain that travels from one joint to another. In this form of arthritis, the initial joint may begin to feel better before pain in another joint appears. Although migratory arthritis can be caused by other types of arthritis, it can also be caused by a major disease. Migratory arthritis is most common in people who have osteoarthritis (wear and tear on the cartilage that covers the bones in joints), rheumatoid arthritis (an autoimmune disorder in which your body attacks healthy tissues), gout (a type of arthritis caused by crystal build-ups between joints), and lupus (an inflammatory disease in which your immune system attacks your body's joints and tissues).^[8]

Erythema, warmth, discomfort, and swelling are common symptoms of inflammation. Patients with severe joint inflammation or systemic illness also may appear with weariness, weight loss, or fever.⁽⁹⁾ Morning stiffness that lasts more than an hour indicates underlying inflammation.⁽¹⁰⁾ The length of morning stiffness is a good indicator of the amount of inflammation. Morning stiffness caused by rheumatoid arthritis, for example, might continue for hours.^[11-12]

In our case report the patient was diagnosed with the fever for 20 days and had swelling in the joints and also presented with a family history of arthritis, final diagnosis was migratory polyarthritis. The patient was administered anti-inflammatory and anti-pyretic for symptomatic relief. A non-pharmacological intervention like dietary and physiotherapeutic recommendation should be continued for the patient's better recovery and should be monitored for future developments.

CONCLUSION

In conclusion, migratory polyarthritis is a type of inflammatory arthritis that affects multiple joints throughout the body. While the exact cause of this

condition is unknown, it is believed to be related to an autoimmune or infectious process. Treatment typically involves anti-inflammatory medications, rest, and physical therapy. In some cases, other treatments, such as massage or chiropractic care, may be recommended to help manage pain and other symptoms. It is important to see a doctor as soon as possible if symptoms of this condition are present, as early diagnosis and treatment can help to prevent long-term joint damage and disability. In our case we managed to reduce complications by giving proper medical treatment and by suggesting physical exercise to the patient. With the right care and management, it is possible for patients to lead an active and healthy life with migratory polyarthritis.

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