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POST CHIKUNGUNYA ARTHRITIS TREATED WITH INDIVIDUALISED HOMOEOPATHY- A CASE STUDY

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ABSTRACT

Polyarticular arthritis with swollen tender joints and severe debilitating pains leading to immobilization is a common symptom of Chikungunya fever. In a majority of the patients, the joint pains resolve in 1 to 3 weeks. However, symptoms may persist in about 33% of patients for 4 months, 15% for 20 months and in 12% of the patients for 3-5 years.[1, 2, 4, 5] This persistent joint pain may require analgesic and long-term NSAID therapy which often does not provide adequate pain relief and is associated with serious GI and cardiovascular side effects.[10] Homoeopathic literature mentions a large number of medicines that have proven efficacy for joint pains.[11,12] It is therefore relevant to explore the efficacy of Homoeopathic treatment for post Chikungunya Arthritis. This study reports 20 cases who complained of persistent joint pains with or without swelling after suffering from fever that met the European Centre for Disease Control (ECDC) clinical and epidemiological criteria[3] for Chikungunya fever; and agreed to discontinue analgesics during homoeopathic treatment. VAS scale and musculoskeletal examination criteria[13] were used to assess the efficacy of treatment. The results indicated significant improvement in pain, tenderness, swelling and range of movement. Homoeopathy can be effective for treatment of post chikungunya arthritis which is evident from the p value (P=1). We need randomized controlled trials with a larger sample size and longer follow up duration to conclusively establish these findings.

KEYWORDS: Chikungunya, Post chikungunya arthritis, Homoeopathy.

INTRODUCTION

Chikungunya fever is an arboviral disease transmitted by the bite of infected Aedes aegypti mosquitoes. It is characterized by abrupt onset of fever and severely painful inflammation

and stiffness of joints with or without rash. Humans serve as the Chikungunya virus reservoirs during epidemics. The condition is crippling due to severe joint pains and stiffness. However, it is non-contagious and rarely life threatening.[1,2]

Chikungunya fever has been reported from Africa, Southeast Asia and India. It affects both genders and all age groups equally. The incubation period ranges from 3 to 12 days. Prodromal symptoms are rare. The onset is usually abrupt with sudden onset of high-grade fever, severe joint pains, myalgia and skin rash. The fever is usually resolves in 3 to 4 days. Polyarticular arthritis with swollen tender joints and severe debilitating pains leading to immobilization is often present. The stooped posture of patients affected with the severe back pain is the most common feature of this disease. Headache, nausea, vomiting, throat pain, abdominal pain and constipation may be present. In about 50% of the patients, transient maculopapular rash is seen. Photophobia and retro-orbital pain have also been reported in published literature. In some patients, joint pain remits for 2-3 days and then reappears in a saddle back pattern.[1, 2, 3]

A definitive laboratory diagnosis can be done by virus isolation, serological test and Polymerase Chain Reaction (PCR) in blood/ serum.[3] There is no specific treatment for chikungunya and no vaccination available to prevent it. The conventional treatment is symptomatic and supportive; it includes prescription of analgesics and non-steroidal anti-inflammatory drugs (NSAIDs). It is advised to avoid aspirin due to its anti-platelet effect and corticosteroids due to rebound arthritis reported in patients.[1, 3, 6, 7]

In a majority of the patients, the joint pains resolve in 1 to 3 weeks. However, the arthritis can persist in about 33% of patients for 4 months, 15% for 20 months and in 12% of the patients for 3-5 years.[1, 2, 4, 5] Studies have reported persistent/ episodic joint pains in 60% of the patients 3 years after suffering from chikungunya fever.[8] Older patients with history of joint trauma or rheumatic disease are more vulnerable to develop chronic stage.[4, 5]

Post chikungunya arthritis is polyarticular, symmetrical and generally involves the small joints of the hand, wrist and ankles. Larger joints like knee and shoulder may also be involved. Axial involvement is common. Hip joints are less commonly affected. The symptoms may include episodic stiffness and pain in joints, persistent stiffness without pain or persistent painful restriction of joint movements which may last for months to years. The

joint pain is worse in morning and exertion; relieved by mild physical activity. X-Ray reports are usually normal and C-reactive protein (CRP) is usually normal or moderately elevated.[4,5]

This persistent joint pain may require analgesic and long-term NSAID therapy. The use of these medicines often does not provide adequate pain relief or deceleration in disease process[1]. Homoeopathic literature mentions a large number of medicines that have proven efficacy for joint pains.[9,10] In this context it is relevant to explore the efficacy of Homoeopathic treatment for post Chikungunya Arthritis.

MATERIALS AND METHODS

A total of 38 patients reported with Post Chikungunya Arthritis at OPD during September 2016 to January 2017. The patients complained of persistent joint pains with or without swelling after suffering from fever that met the European Centre for Disease Control (ECDC) clinical and epidemiological criteria[3] for Chikungunya fever. They had been managed conservatively by allopathic medicines before this consultation without relief. Total of 38 patients reported of which 21 took exclusively homoeopathic treatment, 1 patient did not follow up after first consultation. This study reports the results in 20 patients who took exclusively homoeopathic treatment and continued follow ups.

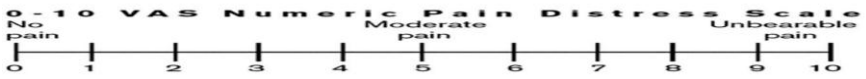
Treatment protocol

A single suitable homeopathic remedy was prescribed after case taking, individualizing each patient and consulting Material Medica/ Repertory. Medicine was prescribed in 30 potency repeated thrice a day or 200 potency repeated once daily. The frequency of repetition was decreased as the patient improved. All the cases were followed up between 5-7 days depending upon the severity of the symptoms.

Assessment parameters adopted

The overall improvement like reduction in tenderness, swelling and pain on joint movements were graded based on the following scales:

1. Severity of pain (VAS scale)



2. Tenderness[11]

No tenderness: 0

Slight or mild tolerable discomfort on palpation: 1

More severe pain on ordinary palpation, which the patient prefers not to tolerate: 2

More intolerable pain even with light palpation or pressure: 3

Pain which may be caused by even a mild stimulus such as a sheet touching the joint: 4

3. Swelling[11]

No swelling: 0

Swelling may not be apparent on casual inspection, but recognizable to an experienced examiner: 1

Swelling obvious even on casual observation: 2

Markedly abnormal swelling: 3

Swelling to a maximally abnormal degree: 4

4. Limitation of joint movement[11]

Normal joint motion: 0

About 25% loss of motion: 1

About 50% loss of motion: 2

About 75% loss of motion: 3

100% loss of motion: 4

RESULTS

The mean age (±SD) of the patients was 43.45 ± 13.42 years and the mean duration of joint pains (±SD) was 31.76 ± 10.26 days. Majority of the patients (80%) reported for treatment in sub-acute phase and were female (60%). Five patients had previous history of joint pains which they described increased after Chikungunya fever. Majority of the patients (80%) reported in sub-acute phase i.e. between 3 weeks to 3 months of suffering from Chikungunya fever.[3] Joint pain was polyarticular in all patients. Discomfort in performing the activities of everyday life (e.g., walking, using toilet, working in kitchen/ driving scooter or car) was identified in all patients. Joint swelling, which was mainly observed in the wrist and ankle joints, was noted in 11 patients (55%). Patient characteristics and location of joint pain is described in Table 1 and 2 respectively. The results were significant (P=1 or <1) with respect to the assessment criteria (Table 3). The prescribing indications of homoeopathic medicine are mentioned in table 4.

Table 1: Patient characteristics

Characteristics	N=20
Mean age ± SD (range)	43.45± 13.42
Male (%)	8 (40%)
Female (%)	12 (60%)
Acute phase (Less than 3 weeks)	4 (20%)
Sub-acute phase (> 3 weeks to 3 months)	16 (80%)
Chronic phase (> 3 months)	-
Mean duration of pain (days ± SD) (range)	31.76 ± 10.26 (14 - 60)
Previous history of Joint pains	5 (25%)

Table 2: Location of joint pain

Present location of joint pain	N (%)
Shoulder joint	12 (60)
Elbow joint	5 (25)
Wrist joint	15 (75)
Small joints of hands/ feet	6 (30)
Hip joint	5 (25)
Knee joint	14 (70)
Ankle/foot joint	8 (40)
Lower back	15 (75)
Generalised body pain	11 (55)

Table 3: Assessment before and 6 weeks after treatment

Assessment Criteria	Grading BT Mean ±SD	Grading AT Mean ±SD	T value	P value
Tenderness	75(3.75 ± 0.44)	22(1.1 ± 0.91)	11.72	P = 1
Swelling	38 (1.90 ± 0.78)	20(0.95 ± 1.05)	3.24	P = 0.99
Limitation of joint movement	55(2.75 ± 0.55)	19(0.95 ± 0.82)	6.79	P = 1
VAS scale (Severity of pain)	161 (8.05 ± 0.75)	85 (4.25 ± 1.48)	10.24	P = 1

Table 4: Indications of prescribed homoeopathic medicines

S No.	Medicine	Potency	No. of patients	Indications
1.	**Belladona**	200	1	Pain and swelling of bilateral knee joints, wrist joints and small joints of hands and feet. Sudden shooting pain in limbs. Unable to walk and do any work without discomfort. Pain feels unbearable.
2.	**Bryonia Alba**	30, 200	5	Pains in bilateral knee, wrist joints, small joints of hands, feet and lower back. Muscles of whole body ache. Difficulty getting up from sitting position or getting up and turning in bed. Pains are aggravated by motion; better by rest and lying on painful side. General weakness, irritability, wants to be left alone. Dry tongue with increased thirst. Constipation, no

				inclination for stools for a day or two; hard stools, feels bowel evacuation is incomplete.
3.	**Chinchona**	30, 200	2	Debility after fever. Pains in all joints with general weakness and aversion to exercise. Pains aggravated by touch and better by hard pressure.
4.	**Eupatorium Perfoliatum**	30, 200	2	Feels worn out after fever as if bones were broken. Aching in all joints and muscles of body. Pains particularly severe in wrist joints, shoulder joints and lower back. Aggravation on walking.
5.	**Ginseng**	30	1	General weakness and debility post fever. Feels weak when walking, sensation of internal trembling. Stiffness of joints, sensation of heaviness in lower back and thighs. Toes feel numb.
6.	**Ledum Palustre**	30	1	Pain in small joints of hands and knees. Ankle feels as if sprained. Feels too weak to move. Aggravation by motion, at night. Patient feels cold but warmth aggravates joint pains. H/O repeated ankle sprain.
7.	**Phosphoric Acidum**	30, 200	2	Pains in back and both upper and lower limbs. General lack of interest in daily activities out of physical weakness, feels completely drained out. Pale sickly complexion.
8.	**Rhododendron**	30, 200	1	Swelling of bilateral knee and wrist joints. Shifting aching pains one joint and after some time another joint; aggravation at night during rest and better by hot fomentation and moving about.
9.	**Rhus Toxicodendron**	30, 200	3	Generalised aching pains since fever. Pain and stiffness in knee joints and back aggravated on first staring to walk and better by continued motion and changing position. Thirst with dry mouth. Triangular red tipped tongue.
10.	**Nux Vomica**	30	2	Aching pain in back and shoulders. Pains aggravated by lying down, morning on waking up and better in sitting position. Feels cold not better covering. Patient is irritable due to pains. There is urging for stools several times in the day; feels that bowel evacuation is incomplete. Desire for spicy food and tea/ coffee.

DISCUSSION

The last major outbreak of Chikungunya infection occurred in 1973 in India. After being silent of 2-3 decades it re-emerged in 2006 outbreak that is still ongoing in the country. In 2006, there were 13.9 million clinically suspected and 2001 laboratory confirmed cases in 16 States/UTs. In 2015, a total of 27,553 and in 2016 there were a total of 58,136 clinically suspected cases of Chikungunya reported from 22 states and 3 UT's. A large number of

patients who suffered from chikungunya fever were incapacitated with crippling post chikungunya arthritis disability for varied period.[1,2]

The patient reported joint pains were polyarticular and symmetrical. Majority of the patients reported lower back pain (75%), pain in wrist joints (75%), ankle and foot joints (40%) and small joints of hands (30%). Hip joints (25%) and elbow joints (25%) were less commonly affected. Joint swelling, which was mainly observed in the wrist and ankle joints, was noted in 11 patients (55%). Generalised body pains worse on exertion were reported by 55% of the cases. These findings match with published literature.[4,5] A larger number of patients in this study however reported with involvement of knee joint (70%) and shoulder joint (60%). A total of 10 homeopathic remedies were prescribed for Post Chikungunya Arthritis after individualising the case. The most prescribed remedies were Bryonia (5), Rhus Toxicodendron (3), Chinchona (2), Eupatorium perfoliatum (2) and Phosphoric acid (2). Belladona, Ginseng, Ledum palustre and Rhododendron were prescribed to one patient each. Patients reported significant improvement in pain (P=1), tenderness (P=1), swelling (P=0.99) and range of movement (P=1).

Persistent joint pains of post chikungunya arthritis require long term analgesic and NSAID therapy which often does not provide adequate pain relief[1]. Long term use of NSAIDs is associated with serious gastrointestinal side effects including increased risk for gastric ulcers; upper GI bleeding, bleeding and perforation and cardiovascular side effects including damage to arterial wall and arterial blood clotting.[12] Published randomized controlled trials do not support the use of disease-modifying anti-rheumatic drugs or any advantage of using chloroquine in the chronic arthritic phase in comparison to NSAIDs.[1,13] Considering the results of this study and an observational study[14] published in 2013 individualised Homoeopathic treatment can be a valid alternative.

Limitations of this study include small sample size and bias related to the subjectivity of the symptoms as it was difficult to objectively assess the relationship between persistent joint pains and Chikungunya virus infection. All patients included in the study fulfilled the clinical and epidemiological diagnostic criteria. Majority were not laboratory confirmed cases. Apart from patient reported pain, findings on physical examination were few and in 11(55%) patients who presented with swollen wrist or ankle joints this sign could be attributed to other underlying illnesses. 5 of the 20 patients reported a prior history of joint pains, which made establishing the real cause of joint pain difficult.

CONCLUSION

The results of this study indicate that individualised Homoeopathic treatment is effective in treating Post Chikungunya Arthritis. However, further randomized controlled trials with a larger sample size and longer follow up duration are required to conclusively establish these findings.

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