ORIGINAL RESEARCH PAPER

Medicine

Volume - 7 | Issue - 4 | April-2017 | ISSN - 2249-555X | IF : 4.894 | IC Value : 79.96

"Clinical and Laboratory Profile of Patients with Chikungunya"

KEYWORDS

Chikungunya, Polyarthritis.

Dr. Munde D. D.

Associate Professor, Department of Medicine, Smt. Kashibai Navale Medical College and General Hospital, Narhe, Pune-411041

Dr. Gajanan B. Kurundkar

Associate Professor, Department of Medicine, Smt. Kashibai Navale Medical College and General Hospital, Narhe, Pune-411041

ABSTRACT Chikungunya is a mosquito-borne viral disease, caused by Chikungunya virus. It is spread by mosquitos mainly *Aedes Aegypti.* The disease has caused large scale outbreaks in various parts of India. Patients usually present with short febrile illness associated with joint pain & variable degree of joint swelling. Joint pain is frequently severe & lasts for few days to few months. The disease is usually self limiting but causes lot of morbidity due to polyarthritis.

Materials & Methods: This was a prospective observational type of study, carried out during the period of 01/09/2016 to 30/11/2016 at the Department of Medicine, Smt. Kashibai Navale Medical College & General Hospital, Narhe, Pune. Total 36 patients of clinically & serologically diagnosed patients of Chikungunya were included & their clinical & laboratory parameters were studied.

Conclusion: Fever, joint pain, joint swelling, myalgia & headache were common findings, whereas rash, leucopenia & thrombocytopenia were uncommon

Introduction: Chikungunya is a mosquito-borne viral disease first described during an outbreak in southern Tanzania in 1952. It is a RNA virus that belongs to the alphavirus genus of the family Togaviradae. The name "Chikungunya" derives from the world in the Kimakonde language meaning "to become contorted" and describes the stooped appearance of sufferers with joint pain (arthralgia) [1,8]

Chikungunya virus is no stranger to the Indian subcontinent. Since its first isolation in Kolkata in 1963, there have been reports of Chickungunya from different parts of India viz. Vellore, Chennai, Nagpur, Barsi, Solapur District.[2]

The urban mosquito *Aedes Aegypti,* that are anthropophilic and maintain close associations with humans, is the major vector of Chikungunya virus. It has involved virtually in all the epidemics in India and other South East Asian countries. However, during the 2005 – 06 epidemic in certain Indian Ocean Islands and Kerala state of the India Ae. Albopictus, played an alternate role [3,7]

Materials and methods: The study was carried out in Department of Medicine at Smt. Kashibai Navale Medical College & General Hospital, Narhe, Pune during the period of 01/09/2016 to 30/11/2016. It was a prospective observational type of study. Total 36 patients were included in this study.

Inclusion Criteria:

All adult patients (age> 18 yrs) of clinically & serologically confirmed Chikungunya who were admitted in department of Medicine, or treated on outpatient basis

Exclusion criteria:

1) Age < 18 yrs
2) Patients previously diagnosed with Connective tissue disorders, Rheumatoid Arthritis, Osteo-arthritis & Septic arthritis

All patients with history of fever & joint pain during the above-mentioned period were interrogated & their case records were carefully studied. Patients with history of recent onset fever & associated joint pain with Chikungunya IgM antibodies positive were selected for the study. Their clinical feature & laboratory findings were noted.

Data expressed in various tables & graphs. Statistical analysis was done using suitable methods.

Observations:

Total 36 patients were included in the study with male to female ratio of 1:1.4. Minimum age was 18 yrs & maximum 67 yrs. The mean age was 38.78 ± 14 yrs.

Table I: Age & sex distribution of patients

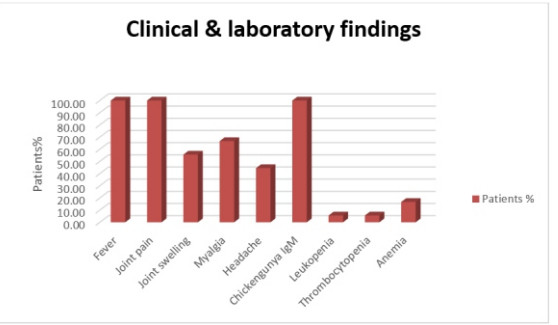
Age (yrs)	Males (No)	Males %	Females (No)	Females %
18-40	11	30.56	8	22.22
41-60	3	8.33	10	27.78
>60	1	2.78	3	8.33

All patients had history of fever which typically lasted for approximately 2-3 days. All patients complained of multiple joint pain involving various joints. Joint swelling was present in 20 patients (55.56%). Other clinical features were myalgia (67.67%), and headache (44.44%). Rash & pruritus were infrequent. Leukopenia & thrombocytopenia were seen in only 5.56% each.

Table II: Clinical & laboratory findings

	Patients (No)	Patients %
Fever	36	100.00
Joint pain	36	100.00
Joint swelling	20	55.56
Myalgia	24	66.67
Headache	16	44.44
Chikungunya IgM	36	100.00
Leukopenia	2	5.56
Thrombocytopenia	2	5.56
Anemia	6	16.67

Graph I Clinical & laboratory findings



Discussion: Until the explosive epidemic in 2006 – 07, Chikungunya virus did not receive much attention due to low mortality, infrequent

Volume - 7 | Issue - 4 | April-2017 | ISSN - 2249-555X | IF : 4.894 | IC Value : 79.96

occurrence and absence in developed countries. The resurgence of Chikungunya in the Indian Ocean Islands and India has drawn worldwide attention due to its explosive nature, high morbidity and complex clinicopathological manifestations.[3]

Chikungunya produces a dengue like illness in humans, characterized by fever, rash and severe arthralgia persisting for a few weeks to several months.[3]

In our study, out of 36 cases, 15 were males and 21 were females. M:F ratio (1:1.4) which is similar to the study done by Mohini A. Ganu & A. S. Ganu.. Slight female preponderance might be due to more susceptibility of females to immunological insult.[4]

More than half (19 out of 36) of the patients were in the age group of 18 – 40 years. It is similar to the study done by S. D. Suryawanshi, A. H. Dube et al. These finding probably suggest that there is indeed a lack of herd immunity to Chikungunya virus. This lack of herd immunity in younger population probably account for affection of younger patients (< 40 years) than elderly patients (> 60 years).[2]

Fever, joint pain, mayalgia, headache were prominent symptoms. Onset of disease is as acute febrile polyarthritis. Appearance of chronic polyarthritis might be due to immunological phenomena after Chikungunya infection. Chronic disease affects all components of musculoskeletal system including joints, synovium, tendons and burse. Soft tissue pain present may be attributable to myofasciitis. However, duration of joint pain was quite variable ranging from few days to months. Joint pain was frequently severe & crippling. Fatigability and prolonged morning stiffness denote inflammatory nature of arthritis.[4]

Six patients showing mild anemia could be due to disease itself or nutritional. TLC and platelet counts were mostly normal.4 Leucopenia and Thrombocytopenia were seen only in two patients each in our study.

Skin rash and itching was seen in only two patients. There is no mortality in our study, may be due to less virulence of the virus. Chikungunya IgM antibody detection test should be done in second week after onset of symptoms. In first week the IgM antibody test maybe negative due to less titer of the antibodies. Samples collected during the first week after onset of symptoms, should be tested by both serological and virological methods (RT-PCR).[1`]

Good environmental sanitation along with vector control measures may play an important role in prevention of transmission of this disease to new areas.5 In the long term; India needs to rebuild its public-health capacities, especially for vector born diseases. International agencies such as WHO need to actively investigate and map the epidemic and advise the countries about possible spread and dangers of this re-emerging and perhaps more virulent form of Chikungunya virus.[6]

Conclusion: Fever, joint pain, joint swelling, myalgia & headache were common findings, whereas rash, leucopenia & thrombo cytopenia were uncommon.

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