

# Molluscum Contagiosum A Clinical And Epidemiological Study

S Kuchabal, D Kuchabal, B Siddaramappa, P Katti, P Patil

## Citation

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## Abstract

Background: Molluscum Contagiosum (MC), of world wide distribution, is common, but its incidence in most areas is not reliably known. This research examines the prevalence of the disease in relation to general epidemiological variables like age, sex, religion, occupation, seasonal variation including its frequency of clinical variants and association of other skin and systemic diseases. Methods: 100 cases with MC were selected irrespective of age, sex, socioeconomic status of the first 100 patients attending out patient department of the Department of Dermatology STD and Leprosy K.L.E. Society's Hospital and Medical Research Center and District Hospital Belgaum during the study period of 13 months from 1<sup>st</sup> September 1995 to 30<sup>th</sup> September 1996. Clinical examination was done to study the distribution, morphology and umbilication of the lesions. Results: The prevalence of MC was 0.64%. 62% patients belonged to ages 11 to 30 years. Male to Female ratio was 1.6: 1 Hindus (73%) were found to be more involved than Muslims (27%). The prevalence of MC was common among students and housewives (74%), followed by unskilled workers (30.7%), agriculturists and businessmen (26.9%) each and unskilled workers (4%). Conclusion: MC occurred mainly in unskilled workers and was most common in the age group of 21 to 30 (37%).

## INTRODUCTION

MC, a benign virus induced tumor of the skin and mucous membranes, is characterized by small discrete flesh colored to pearly umbilicated papules, most commonly 2 mm to 5 mm in diameter, occurring either singly or in groups.<sup>1</sup> The prevalence is variable ranging from 1% to 5%.<sup>2</sup> During 1964 clinico epidemiological studies were conducted in two widely separated and racially distinct population groups: hospital outpatient and domiciliary patients in Aberdeen and northeast of Scotland and Fijian village dwellers in islands of Fiji in the Southwest Pacific. From 1964 to 1966 368 patients were seen. This was according to Aberdeen surveys. In the Fiji surveys in 1966 the overall incidence was 4.5% compared with 7.2% in 1959 and 6.2% in 1965.<sup>3</sup>

Becker reported data collected from 1966 to 1983 by the National and therapeutic index survey that is used to compile information about patterns and treatment of disease in office based practices in the United States.<sup>4</sup> This is the first clinical and epidemiological study of MC being reported from India.

## METHODS

This study was conducted in the Department of Dermatology, STD and Leprosy K.L.E. Society's Hospital

and Medical Research Center and District Hospital Belgaum. The first 100 patients with MC attending the out patient department were selected irrespective of their age, sex, socioeconomic status, occupation during the study period of 13 months from 1<sup>st</sup> September 1995 to 30<sup>th</sup> September 1996.

A detailed history was obtained from the patients regarding the disease, its evolution, involution, single or discrete, itching, erythema, bleeding, any appearance of cheesy material, duration of lesions, first site, subsequent sites, atopy, HIV positive and intake of immunosuppressive drugs. Thorough clinical examination was made to define the precise distribution, morphology and umbilication of lesions. The skin was screened for the presence of associated conditions. All 100 patients underwent routine investigations including routine blood counts (total count, differential count & hemoglobin percentage), urine analysis for albumin, sugar, microscopy. Other investigations like blood for HIV, VDRL and random blood glucose were done in selected cases. Institutional Review Board not needed in India.

## **SPECIMEN COLLECTION**

MC lesion was pierced by a straight needle and molluscum body was removed by hooking it out. The molluscum body was placed on two glass slides, with the help of scalpel blade smear was prepared by rubbing the molluscum body against the slide. After preparing the smear, it was allowed to dry by exposing the slide to atmospheric temperature for ½ hour. Then these two slides were stained with the 1. Papanicolaou and or 2. Giemsa stain.

## **RESULTS**

100 patients (62 male and 38 females) having MC were included during the 13 month period from 1<sup>st</sup> September 1995 to 30<sup>th</sup> September 1996.

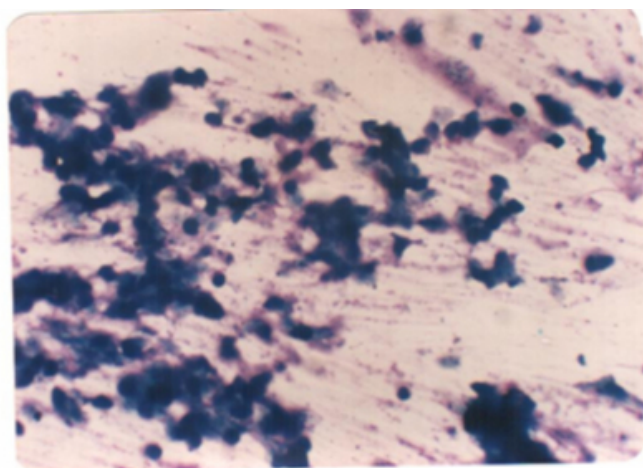
All 100 patients were confirmed by the presence of oval or brick shaped viral inclusion particles by staining procedures; namely Papanicolaou stain (Figures 2 and 4) and Giemsa stain (Figures 1 and 3). The prevalence of MC was 0.64%, total number of Dermatological patients attending OPD was 15677. MC was most common in the age group 21 to 30 years (37%), next common age group was 1 to 10 years (27%). Maximum patients were in the age group of 21 to 30. After 30 years of age # of cases reduced Figure 5 shows the age distribution of patients. The youngest patient was 3 years male and the oldest 65 years female. 73 (73%) were Hindus and 27 (27%) were Muslims. Table 1 shows the seasonal variation of patients having MC. Maximum patients having MC were in the month of April 14 (14%), November 14 (14%), December 14 (14%), January 11 (11%), February 8 (8%) and March 9 (9%) Maximum frequency of patients having MC was between December to January i.e. in winter season. MC was commonest in students and housewives in 74 (74%) followed by unskilled workers 8 (30.7%). Maximum prevalence was seen in students and house wives followed by unskilled workers. Table 2 shows the primary site distribution. Maximum primary site distribution was seen over face followed by arms and hands. Table 3 shows the secondary site distribution. Maximum secondary site distribution was seen over face followed by upper limbs. The occupation of patients of MC having HIV infection which were 11. The occupations which were affected in decreasing order of frequency were unskilled workers 6 (54.5%), farmers and housewives 2 each (18.2%), businessmen 1 (9.1%).

The commonest associated diseases in decreasing order of frequency were herpes Simplex 3 (23.1%), condyloma accuminata, tinea corporis and tuberculosis 2 each (15.5%),

Lymphogranuloma venerium, Erythema-Ab-Egne, Nephrotic syndrome and Eclampsia 1 each (7.6%).

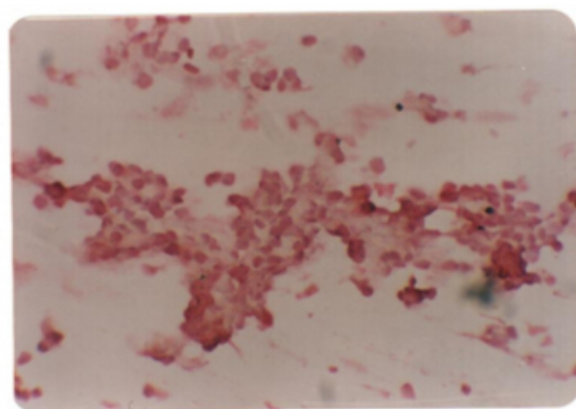
**Figure 1**

Figure 1 Smear from a papular lesion showing plenty of Squamous cells with molluscum bodies (Giemsa, × 100)



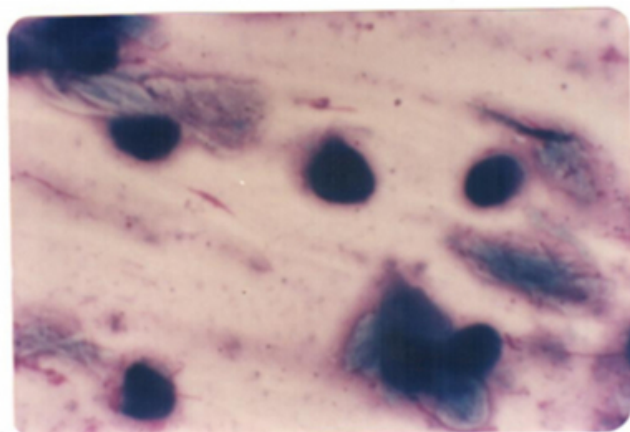
**Figure 2**

Figure 2 Smear from a papular lesion showing plenty of Squamous cells with molluscum bodies (Papanicolaou stain, × 100)



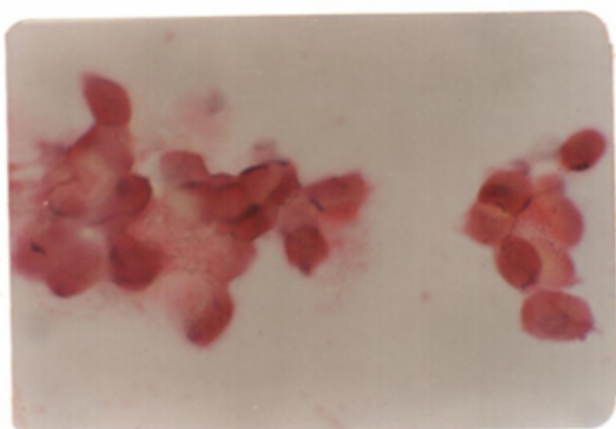
**Figure 3**

Figure 3 Smear showing epithelial cells with molluscum bodies (Giemsa stain, × 400)



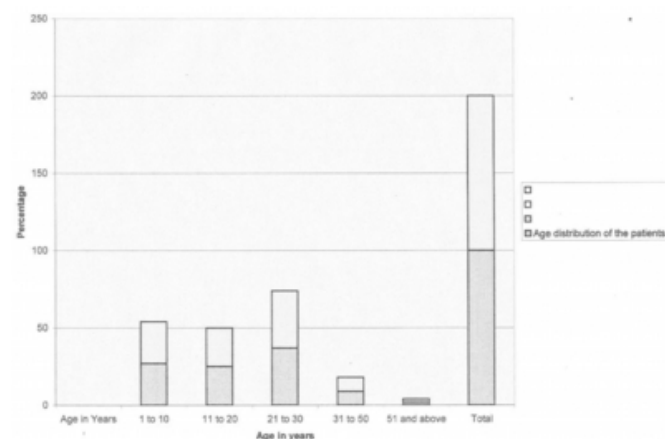
**Figure 4**

Figure 4 Smear showing epithelial cells with molluscum bodies (Papanicolaou stain, × 400)



**Figure 5**

Figure 5 Shows the age distribution of patients



**Figure 6**

Table I Seasonal variation of the patients

Months	No of patients	Percentage
January and February	19	19
March and April	23	23
May and June	14	14
July and September	8	8
October	22	20
November and December	14	13
Total	100	100

**Figure 7**

Table II Primary site distribution of the patients

Primary site	No. of patients	Percentage
Face Arms and hand	47	47
Eyelids and Neck	16	16
Leg and Chest	10	10
Abdomen and Scalp	5	5
Axilla and Back	2	2
Gentalia Male	13	13
Female	6	6
Total	100	100

**Figure 8**

Table III Secondary site distribution of the patients

Secondary site	No. of patients	Percentage
Face and Upper limb	47	47
Neck and Lower limb	18	18
Other sites	43	43

## DISCUSSION

Postelthwaite et al<sup>1</sup>. from New Guinea low lands reported the incidence of MC as 2.1%, the prevalence of MC in our study was 0.64%. The reports concerned to age are most variable.

Stuart et al in a study of 401 patients in 16 villages in West Sepik reported the maximum age incidence under the age of 10 years.

Postelthwaite et al.<sup>1</sup> did an epidemiological study and supported the notion that MC being primarily the disease of children with a peak incidence at 10 to 12 years where as in our study majority of patients having MC were between 21 to 30 years (37%). This difference may be attributed to sexual transmission. The next peak prevalence was between 1 to 15 years which accounted for 36% of patients which is in agreement with Stuart et al.<sup>5</sup> and Postelthwaite et al.<sup>1</sup>

The exact sex incidence in literature is not available. In the present study male to female ratio was 1.6: 1 showing male preponderance.

No study has been done regarding the incidence of the MC in any particular religion. In the present study 73% of patients were Hindus and 37% Muslims. The high incidence in Hindus may be due to large number of Hindus in the general population in India.

Postelthwaite et al.<sup>1</sup> found high prevalence in warm climate 3.3% to 4.4%. According to Mihara et al.<sup>6</sup> prevalence rate of MC is 1.9% in New Guinea Highlands when the weather is cooler and less humid. In the present study peak prevalence was between the months of November to January i.e. November (14%), December (14%) and January (11%). MC was more common in winter.

No study has been done regarding the incidence of MC in particular occupation. In the present study the highest # of patients was seen in unskilled workers 8 (30.7%) followed by agriculturists 7 (26.9) and businessmen 7 (26.9).

Oriel et al.<sup>7</sup> observed that a later peak incidence of MC is seen in young adults attributable to sexual transmission, which appears to have increased between 1960s and 1990s. Oriel et al.<sup>7</sup> enlightened that MC is being increasingly diagnosed in the sexually active population. Becker et al.<sup>4</sup> had similar observation. The present study shows that in 19% of patients including males and females the lesion occurred on the genitalia which can be attributed to sexual transmission. The peak prevalence was between 21 to 30 years which is the sexually active group.

Richert et al.<sup>8</sup> first reported the association of MC in a patient who had AIDS in 1983. Since then Lombardo et al in 1985 and Katzman et al.<sup>9</sup> in 1985 have reported numerous associations of MC in AIDS patients. Koopman et al in 1992

and Schwartz et al also in 1992 reported atypical manifestations of MC in HIV infection.<sup>11</sup> Lombardo et al in 1985, Katzman et al.<sup>9</sup> in 1985 and Schwartz et al in 1992 reported that the course of MC in HIV infected persons is progressive and MC is recalcitrant to treatment.

Coldiron et al.<sup>10</sup> in 1989 and Koopman et al.<sup>11</sup> in 1992 reported the prevalence of MC in certain population of HIV infected persons may be as high as 5 to 18%. In the present study total number of HIV positive patients was 11, unskilled workers were 8 (54.5%), farmers and housewives 2 each (18.2%) and businessmen 1 (9.1%). One 18 year old male HIV positive patient had generalized lymphadenopathy with matted cervical lymphnodes which was confirmed as tuberculous lymphadenitis. Maximum patients having HIV infection was seen in unskilled workers followed by farmers and house wives.

In the present study the commonest associated diseases in decreasing order of frequency were herpes Simplex 3 (23.1%), condyloma accuminata, and tuberculosis tinea corporis and tuberculosis 2 each (15.5%), Lymphogranuloma venerium, Erythema-Ab-Egne, Nephrotic syndrome and Eclampsia 1 each (7.6%). Commonest associated disease was herpes simplex followed by condyloma accuminata, tuberculosis and tinea corporis

## **ACKNOWLEDGMENTS**

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**Author Information**

**Shankarling D. Kuchabal, M.D.**

Dermatologist and Cutaneous Surgeon, Dr Kuchabal Hospital

**D. S. Kuchabal, M.D., D.V.D., D.D.V.**

Chief Dermatologist, Dr Kuchabal Hospital

**B. Siddaramappa, M.D., D.V.D.**

Professor, Department of Dermatology, Jawaharlal Nehru Medical College

**Professor S. M. Katti, M.D.**

Department of Community Medicine, Jawaharlal Nehru Medical College

**Prakash V. Patil, M.D.**

Professor, Department of Pathology, Jawaharlal Nehru Medical College