Molluscum Contagiosum in Baquba City Epidimiological Study with Identification of Mc Viruses by Polymeras Chain Reaction

Khudhair Khalf Al-Kayalli (FICMS)[1], **Raghad Ibrahim Ahmed** (M.Sc.)[2], **Brooj Mohammad Irzuqy** (M.Sc)[3] and **Wathek Mohammed Husain** (FICMS)[4]

Abstract

Background: Molluscum contagiosum is a DNA virus, which may infect the mucous membrane, it is caused by Molluscipox virus and there are four types (MCV1-4). The sites of predilection of lesions are the face and neck, both genders equally affected and most commonly seen in childhood age group.

Objectives: To study the epidemiological variables of Molluscum contagiosum and to confirm the clinical diagnosis and type of Molluscum cotagiosum virus (MCV) by Polymerase chain reaction (PCR) technique.

Patients and methods: The present study was conducted for the period from 1st November 2011 to 30th April 2012 in outpatient clinic of Baquba teaching hospital in Baquba city.

One hundred and sixty two patients with molluscum contagiosum were examined and diagnosed clinically and the diagnosis was confirmed by Polymerase chain reaction technique .The lesions of moluscum contagiosum were seen on different sites of the body, age of patients ranged from (1-80 years) with a mean age of 35+_9years . They were 114(70.6%) males and 48(29.4%) females.

Results: The results showed that 72 (44.4%) patients of age group (31-40 years), of which 50 (70%) were males and 22 (30%) females, 35 (21.6%) of age group (ten years or less). This study revealed that 56(35%) of patients were illiterate, without statistical significant difference between MC infection and educational levels. In 78% of patients the lesions located on the head and neck, 70% on the right side and in 78% of patients the number of lesions was ≤10 lesions, 70% of patients lived in the urban areas and 30% in rural areas. Eighty five percent (85%) of patients give positive results for MCV, 58.8% of them shows positive results for MCV type 1 and 2 (73.3% MCV-2 and 26.7% MCV-1), while 41.2% shows negative results .

Conclusion: We concluded that Molluscum contagiosum was a disease of adult, predominantly males and on the right side of the face and 73.3% of PCR positive results were MCV-2.

Key words: Molluscum contagiosum, epidemiology, skin infection, polymerase chain reaction.

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[1] Department of Medicine- College of Medicine - University of Diyala - Diyala - Iraq.

[2] Department of Biology - College of Science - University of Diyala - Diyala- Iraq.

[3] Department of Microbiology - College of Medicine -University of Diyala - Diyala- Iraq.

[4] Baquba Teaching Hospital - Diyala - Iraq.

Introduction

Molluscum contagiosum (MC) is a viral skin infection which may infect the mucous membrane, occasionally. It is Molluscipox virus from family Poxviridae. Molluscum contagiosum virus (MCV) was first described and later assigned its name by Bateman in the beginning of the nineteenth century [1].

In 1841 Henderson and Paterson described the intracytoplasmic inclusion bodies now known as molluscum or Henderson-Paterson bodies. In the early twentieth century, Juliusberg, Wile, and Kingery were able to extract filterable virus from lesions and show transmissibility [2].

MCV has no animal reservoir, infecting only humans and there are four types of MCV, MCV-1, MCV-2, MCV-3 andMCV-4. MCV -1 was the most prevalent predominantly seen in children and MCV -2 was seen usually in adults and often sexually transmitted , both sex affected equally [3].

Clinically the individual lesion is consisted of a shiny, pearly white, hemispherical umbilicated papule, which may show a central core, size of less than 1mm up to1cm. Sites of predilection of lesions were face, eyelids, neck, axillae, thighs and genital area in sexual contact. In Acquired immunodeficiency syndrome (AIDs) the lesions are large, numerous and on the face. Mild erythema or eczematous dermatitis may develop around the papules. Primary mode of transmission was via direct human contact including sexual means lead to the appearance of lesions in the genital areas, contaminated fomites, and autoinoculation through scratching is also suspected , the clinical diagnosis of the disease is confirmed by histopathological , Geimsa or Gram and Wright stain , Electron Microscopic and PCR examination of currated or biopsied lesion [4].

The aim of the study is to confirm the clinical diagnosis by Polymerase chain reaction and to evaluate the epidemiological variants of molluscum contagiosum in Baquba city.

Patients and Methods

This study was conducted in outpatient Clinic of Dermatology of Baquba Teaching Hospital as across sectional study including all patients attending in the period between 1of November 2011 and 30 of April 2012. The disease was diagnosed clinically and confirmed by Conventional PCR technique in one hundred and sixty two patients seen and examined by dermatologist , the demographic information include age, sex, address, educational status and the number and distribution of the lesions on the body sites.

Results

Distribution of MC according to the following variables:

Distribution of MC according to the age.

The results showed that 72(44.5%) of patients within age group (31-40 year), 35(21.6%) in the age group (≤10year), 25(15.4%) in the age group (21-30 year), 11(6.8%) in the age group (41-50 year), 12(7.4%) in age group (11-20 year) and 7(4.3%) in the age group (≥51 year), table 1.

Table (1): Distribution of MC according to the age.

Age	No. of patients	%
≤10	35	21.6
11-20	12	7.4
21-30	25	15.4
31-40	72	44.5
41-50	11	6.8
≥51	7	4.3
Total	162	100

Distribution of MC according to the gender the results showed that MC was more prevalent in males 114(70.4%) in comparison with females 48(29.6%), as shown in table 2**.**

Table (2): Distribution of MC according to the gender of patients:

Gender	No. of patients	%
Male	114	70.4
Female	48	29.6
Total	162	100

Distribution of patients according to the residence of patients.
Most of the patients were from the urban area 114(70.4%) compared with rural group 48(29.6%), the difference in residence was statically significant**,** as shown in table 3.

Table (3): Distribution of patients according to their residence.

Residence	No. of patients	%
Urban	114	70.4
Rural	48	29.6
Total	162	100

Distribution of MC according to the educational level. The results showed that 58 (35.8%) were illiterate, 54(33.3%) of primary school level, 29(17.9%) of secondary school level and 21(12.9) of college level, as shown in table 4**.**

Table (4): Distribution of MCV according to educational level.

Educational level	No. of patients	%
Illiterate	58	35.8
Primary school	54	33.3
Secondary school	29	17.9
College	21	12.9
Total	162	100

Distribution of patients according to the number of lesions.

The study revealed that 127(78.3%) of patients had lesions (≤10), 16(9.8%) had (11-20) lesions, 7(4%) had (41-50) lesions, 6(3.9%) had (≥50) lesions, 3(2%) had (21-30) lesions and 3(2%) had (31-40) lesions, table 5.

Table (5): Distribution of patients according to the number of lesions.

No. of lesions	No. of patients	%
≤10	127	78.3
11-20	16	9.8
21-30	3	2
31-40	3	2
41-50	7	4
≥51	6	3.9
Total	162	100

Distribution of lesions according to the side of the body.

The lesions were predominantly seen on the right side of body 114(70.4%) in comparison with the left side 48(29.6), table 6.

Table (6): Distribution of the lesions according to the side of the body of patients:

Side of lesions	No. of patients	%
Right	114	70.4
Left	48	29.6
Total	162	100

Distribution of MC according to the site of the lesions.

The study revealed that 127(78.4%) of lesions located on the head and neck, then 16(9.8%) on the genital area and 19(11.8%) on other body sites, (Table 7).

Table (7): Distribution of MC lesions according to their area on the body of patient:

Anatomical area of lesion	No. of patients	%
Head and neck	127	78.4
Genital area	16	9.8
Other body site	19	11.8
Total	162	100

Types of MCV. MCV-2 was detected in 73.3%) of patients with MC (46.7% males and 26.7% females) and (26.7) had MCV-1 (both sex equally affected). MCV-2 was more prevalent in adult age group (31-40year) (46.5%), while MCV-1 was more prevalent in children age group (<10 years) (26.7%).

Discussion

This study revealed that most of patients were found in age group (31-40) which was disagreement with the study done in India by Chandrashekar LM [5]. In which Molluscum contagiosum was most commonly seen in the age group(5-10 years), followed by the age group (1-5 years), then age group (10-14years) and less common in age less than 1 year, also disagreement with study in USA reported by Dohil MA [6]. In which approximately 80% of the patients was younger than 8 years and disagreement with [7]. Who reported that (62%-64%) of patients belonged to age (11- 30 years).

Gender predilection in this study was agreement with report of Turkish researcher [8]. 67.2% in males and 32.8% in females and disagreement with study reported in Iran [9]. 45% in girls and 55 % in boys and with study in Egypt in which males represented 42.9% and females 57.1%, [10] .

According to residence, the present study was less agreement with study in USA reported by Mary, who found no statistically significant differences, in terms of region of residence [11], but the present study was more agreement with Anna and Daniel. Who reported respectively that MC is more common in hot countries and among economically deprived communities with overcrowding [12, 13].

The results of present study regarding to educational level of patients were concordant with Mustafa FF study (10) ,the incidence among children in public school were more than private school and in children from families with low education and also large families . The present study was in concordant with study reported by Kuchabal DS (7), the prevalence of MC was common among student and housewives (74%), followed by unskilled worker (30.7%), agriculturists and businessmen (26.9%).

The result of present study was more agreement with research reported by Agromayor M (14), in which most of the patients had ten lesions or less.

The right side is predominantly affected, which may be related to kissing between persons on right side of face in happy and sad habits.

The present study was agreement with study reported by Bernard and Untoo [15, 16]. In adults the MC lesions were located mainly on the face, where as in older children they are located on the trunk and disagreement with study reported by Stulberg and Talia in which MC most commonly located on the arms, legs, trunk and less commonly on face [4, 17]. This study was disagreement with study done by Molino, in which most lesions (64%) seen on the trunk and extremities [18]. In conclusion, it was concluded that Molluscum contagiosum was a disease of adult male predominantly on the right side of the face, in urban area, illiterate and (73.3%) of PCR positive results were caused by MCV-2.

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