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MOLLUSCUM CONTAGIOSUM: ACROSS SECTIONAL STUDY

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ABSTRACT
Molluscumcontagiosum (MC) is caused by up to four closely related types of poxvirus, MCV-1 to -4, and their variants. Although the proportion of infection caused by the various types varies geographically, throughout the world MCV-1infections are most common. Infection with MCV is worldwide. Three groups are primarily affected *i.e.* young children, sexually-active adults, and immunosuppressed persons, especially those with HIV infection. Molluscum is most easily transmitted by direct skin-to-skin contact, especially if the skin is wet. Swimming pools have been associated with infection (1). The epidemiology and incidence of Molluscumcontagiosumin Iraqi is largely unknown, despite the fact that the virus is directly communicable and large outbreaks have occurred in recent years. The cross sectional study was conducted to estimate the incidence of MC among Iraqi patients. The results showed that there is an up surge of MC infection in comparison with other dermatological infectious diseases which needs further studying and follow up as it may reach epidemic proportions.

KEY WORDS: Mc Molluscum Contagiosum Infectious Disease, MCV-1 to 4, young children and sexually active adults etc.

INTRODUCTION

Molluscumcontagiosumis a benign viral infection of the skin that is largely if not exclusively a disease of humans, caused by a virus in the family *Poxviridae* (MC) In otherwise healthy individuals, infection with Molluscumcontagiosum virus (MCV) results in a benign self-limiting condition marked by the formation of distinctive, persistent dermal lesions that evolve slowly over the course of several weeks to several months. The total time-course of infection may be prolonged due to inadvertent autoinoculation of the virus to other parts of the body. Activities or circumstances that involve skin-to-skin contact (e.g., play, sports such as wrestling, sexual activity, etc.) have been associated with increased risk for infection (2)

Because of the characteristic appearance of MC lesions, diagnosis is generally made without laboratory testing. Often specific treatments or therapies are not pursued for MC infection in immune competent individuals, as lesions will resolve with time, however, mechanical removal (*via* curettage, cryotherapy, or laser treatment) and various topical therapies (including tretinoin, cantharidin, Imiquimod, cidofovir) are sometimes utilized to minimize the duration that lesions are present, particularly on the face or on areas of the body that are subject to heightened irritation. Molluscumcontagiosum in persons who have immune compromise—whether due to HIV infection, immunosuppressive drug therapies, or other reasons—can be complicated(3,4). The disease is common, but its incidence in most areas is not reliably known. The disease is rare under the age of 1 year, perhaps due to maternally transmitted immunity and a long incubation period. In hot countries where children are lightly dressed and in close contact with one another, spread within households is not uncommon. The age of peak incidence is reported as between 2 and 5years (5)(6).In cooler climates, however, spread within households is rare and infection may occur at a later age(5)(7). Perhaps correlated with use of swimming pools and shared bathing facilities (8). A later incidence peak in young adults is attributable tosexual transmission with lesions more common in the genitalarea. Infection of children through sexual abuse is presumably possible. However, to a greater extent than warts, MC is seen quite commonly on the genital, perineal and surrounding skin of children, and abuse should not be regarded as likely unless there are other suspicious features.

There is a clinical impression that MC is common in patients with atopic eczema (9), and occasional reports describe widespread infections, possibly based on impaired immunity. Topical steroids and also topical calcineurin inhibitors have been suspected as a contributing factor in eczema another patients (10) (11).Unusually widespread lesions have been reported in immunosuppressed patients with HIV disease, sarcoidosis (12), and in those receiving immunosuppressive therapy (13) (14), suggesting that cell-mediated immunity is significant in control and elimination of the infection.

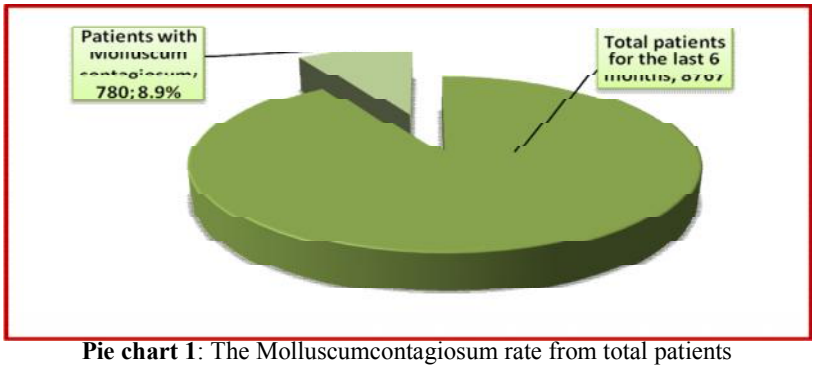
Patients and Method

A cross sectional study, which was conducted in Alkindy teaching Hospital Baghdad, Iraq over period of 6 months (from July to December 2011). All patients, patients with dermatological infections and MC patients data who visit the out patients clinic in Alkindy teaching Hospital over six months period were collected and analysis was done as follows; Total no. of patients were 8767, this number includes all patients with dermatological problems including dermatological infections and patient with MC. Atopic dermatitis and immunosupressed patients were excluded from the study. Data of patient were collected including age, gender, duration of the disease in months,

site, no of the lesions, family history and recurrence of the disease.

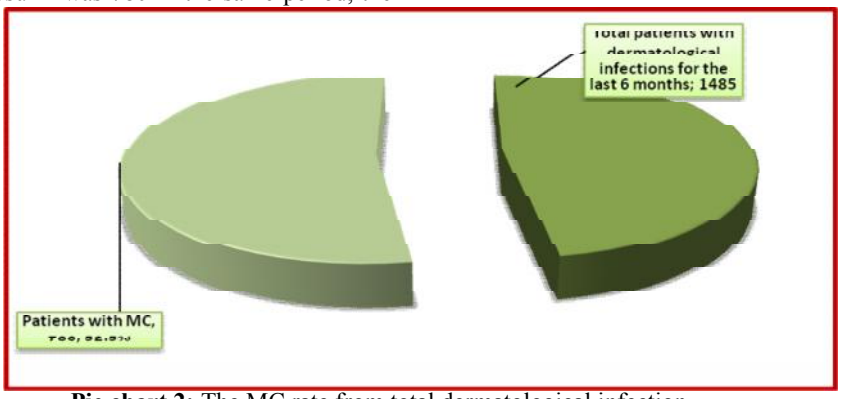
RESULTS

Total no of patient were 8767 patients, 780 patients were found to have MC which contribute 8.9% of the total patients (Pie chart 1). The total no of dermatological Infections (whichinclude fungal skin infection, human papilloma virus, herpes virus infection,bacterial skin disease….ect) were compared with MC no. of patients.



Pie chart 1: The Molluscumcontagiosum rate from total patients

Total patients with dermatological infections for the last six months were 1485 patients, no. of patients with molluscum contagiosum was 780 in the same period, the percentage was 52.5% for the MC out of total patients with dermatological infections(Pie chart 2).



Pie chart 2: The MC rate from total dermatological infection.

Further Data of outpatient clinic was analyzed for clinical presentation of MC among our Iraqi patients and the results were as follows:

1-Characteristics of molluscumcontagiosum according to the site:

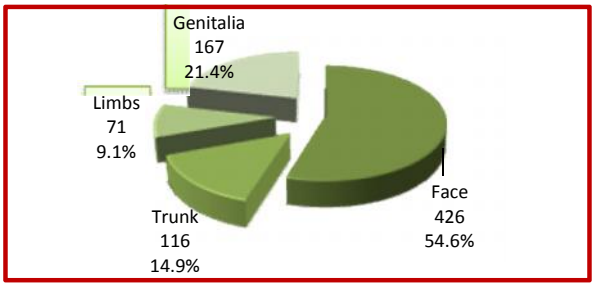
426 patients have MC in the face which constitutes54.6% of the total.

167 patients have MC in the genitalia which constitutes 21.4%

116 patients have MC in the trunk which constitutes 14.9 %.

71 patients have MC in the limbs which were 9.1% (pie chart 3).

P value was significant for the face using Pearson chi-square test at 0.05 level of significance (p=0.006)

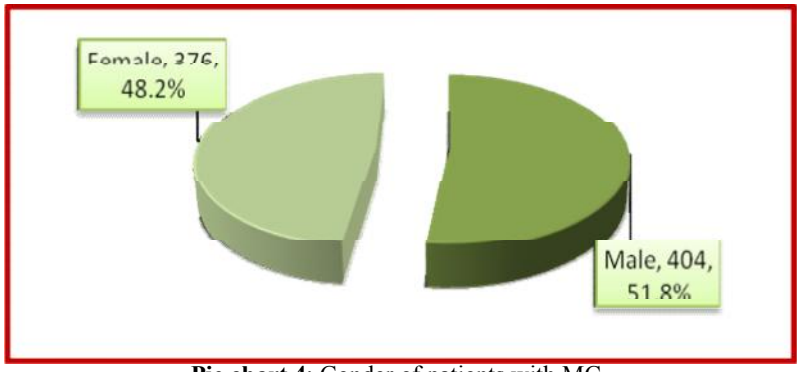


Pie chart 3: The site of lesion.

2-The gender of patient

376 female and 404 male were included and the percentage was 48.2% and 51.4% respectively (Pie chart 4).

P value was not significant (P=0.859) using Pearson chi-square test at 0.05 level of significance.



Pie chart 4: Gender of patients with MC.

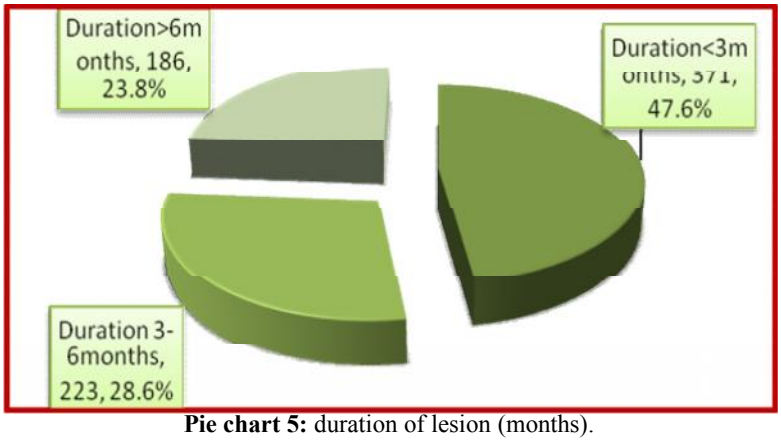
3-Duration of the disease:

The patients were divided according to the duration of the disease in months in to three groups: less than 6 months, 3-6 months, and more than 6 months duration (Pie chart 5). 186 Patients (23.8%) have MC more than six months duration.

371 patients (47.6%) have MC less than six months duration.

223 patients (28.6%) have MCfor 3-6 months

P value = 0.0007 was significant for the duration less than 3 months using Pearson chi-square test at 0.05 level of significance.



Pie chart 5: duration of lesion (months).

4- Age of the patients

The patients were divided in to four age groups; less than 10 yr, 10-19yr, 20-29yr and more than 30yr (Pie chart 5).

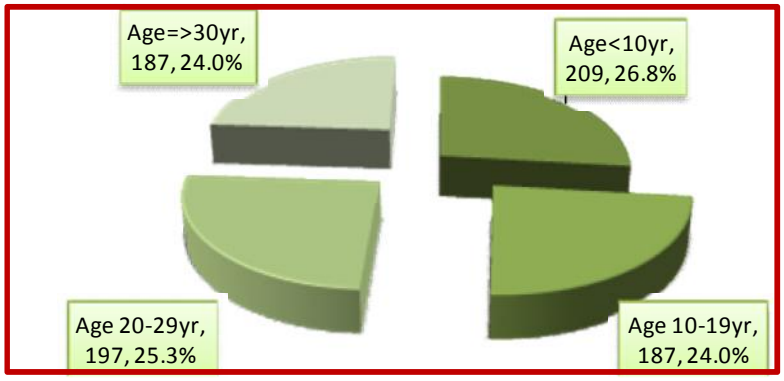
290 patients were less than 10yr (26.8%)

187patients were between 10-19yr of age (24%)

197 patients were between 20 -29yr of age (25.3%)

187 patients were over 30yr of age (24%)

P value was 0.758 (Not significant using Pearson chi-square test at 0.05 level of significance).



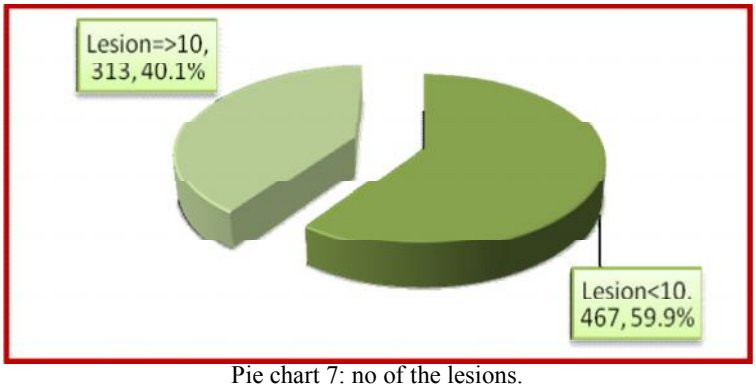
Pie chart 6: age of patients with Mc.

5- No. of lesions of MC

The patient with MC were divided into two groups according to the no. of lesions in each patients; patients with less than 10 lesions and patients with 10 and more lesions(Pie chart 7).

467 patients (59.9%) had less than 10 lesions and 313 patients (40.1%) had 10 or more than 10 lesions.

P=0.356 (Not significant using Pearson chi-square test at 0.05 level of significance).

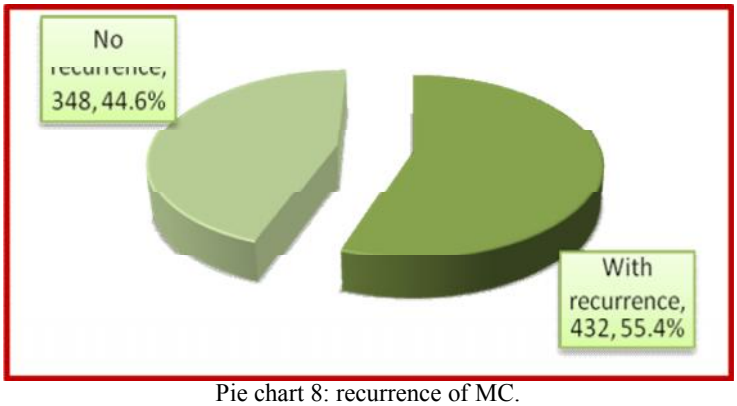


Pie chart 7: no of the lesions.

6- The recurrence of the disease

432 patients (55.4%) had recurrence of MC and 348 patients (44.6%) had MC for the first time (Pie chart 8).

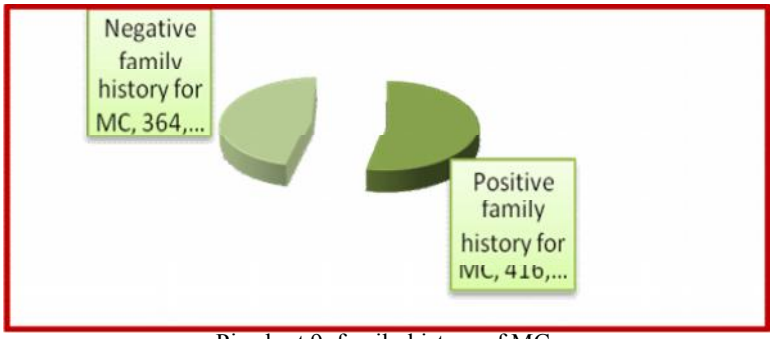
P=0.593 (Not significant using Pearson chi-square test at 0.05 level of significance)



Pie chart 8: recurrence of MC.

7- Family history

364patients with MC give negative family history (46.7%) of MC patient while 416 patient with MC gave positive family history (53.3%).P=0.886 (Not significant using Pearson chi-square test at 0.05 level of significance).



Pie chart 9: family history of MC.

DISCUSSION

MC is bengin but nonetheless frequently troublesome viral infection that generally affects young children. It is characterized by smooth, dome – shaped discrete papules that occasionally develop surrounding areas of scale and erythema (molluscums and dermatitis). Patients and families are bothered by this infection because of its often prolonged course, because it may persist for months to years (18).

A subclinical carrier state of MC virus probably exists in many adults (19).

MCV infection occurs worldwide and appears specific to humans. The prevalence of MCV infection has risen significantly in the past several decades, with an 11 fold increase noted in one U.S. study of patient visits for this disorder over atwo- decade span. This rise appears to parallel the overall increase in sexually transmitted diseases. Although aprevalence rate of less than 5 percent in U.S. children is often cited, the rate varies by location, and it is thought that sub- clinical infection may be more common than overt disease. A Australian study documented an overall seropositivity rate of 23 %, which supports the view that sub-clinical or mild unrecognized disease exists in population (18).Transmission may occur via direct skin or mucous membrane contact, or via fomites. Bath towels, swimming pools, and Turkish baths have all been reported as sources of infection, and individuals involved in close contact sports (e.g., wresting) also appear at higher risk. Autoinoculation and koebnerization also play a role in spread of lesions (18). In Iraq, in last few years, there was increase in the incidence of mc in compared with other dermatological infections which made a burden for doctors and patients at the same time; this need to be investigated more trying to find the causes and to prevent further spread.

This study was cross sectional study, MC virus infection represents 8.9% from all dermatological patients who visit Alkindy Teaching Hospital over the six months study period. Also, 52.5 % of dermatological infections was MC, it was high percentage in compared other dermatological infectious disease. This increase in mc virus infection may be explained by overcrowding and large Iraqi families. Large no. of peoples were grouped together during social and religious events using same towels and beds, this help in spreading virus by direct skin to skin contact and from towels. So does humid and hot climate in our country as MC is rare in cold places. Subclinical MCV help in spread of the disease to others especially those who are working as hair dressers, in nurseries , medical and paramedical staff; this occurs specially after 2003 war were there was limitation in "disease control program" and " health workers " activities on those jobs .The availability and haphazard use of many topical and systemic steroids by people and paramedical staff without scientific back ground play role in spreading of many infections including mc through immune suppression. On other hand, because MC as a viral skin infection is considered as very mild and harmless (other than it is contagious and cosmetically unacceptable) it is self-limiting and this is not an urge for immediate treatment; the viral load on the skin is large and this will be source of viral spread to contacts. For the clinical presentation of MC, data were collected for the sex, age, site, number, recurrence, family history and duration of Mc. Widespread and refractory mollusca on the face are seen most commonly in HIV disease(15).and also with iatrogenic immunosuppression(16). In otherwise healthy subjects occasional facial lesions are seen,particularly on the eyelids. Molluscum may affect the scalp, lips, tongue and buccal mucous membrane, and indeed any part of the body surface, includingthe soles where the appearance is atypical (17). In our patients; the face was significantly involved (who are immunocompetent) (p value =0.006) in compare to other sites involved. The duration of the disease less than 6 mos. was significant (p value =0.0007) and this may be due to duration of the study (over 6 months). In our patients, MC infection presents itself clinically similar to what was reported before with a significant increase in face involvement even in imunocompetent people over other sites with duration of less than three months.

CONCLUSION

There is an up surge in the incidence of MC in the last few years which needs to be investigated more to determine the causes and to diminish any future outbreaks. Education is important for the patients, patients' contacts, paramedical, and medical staff which includes medical and social instructions about the communicability and method of spread of the disease. Prevention of spread may be enhanced by avoiding trauma to the sites of involvement as well as avoiding scratching. Autoinoculation may be decreased by treating all existing lesions (18).

Lastly this study highlights the need for periodic population based measurements to assess trends in incidence and health care utilization for molluscumcontagiosum infection in Iraq.

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