

Molluscum contagiosum of the face: Kissing as an impact cause of viral transmission

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Abstract

Objective “Molluscum contagiosum” is a common skin disease caused by” molluscum contagiosum virus”. It is primarily transmitted by direct contact with viral particles of infected skin, and the human is the natural host. Friendly kissing habits may be responsible for the transmission of “molluscum contagiosum” infections.

Methods More than fifteen years old patients, with” molluscum contagiosum” of the face were enrolled in this clinical descriptive study. A thorough history was taken regarding gender, marital status, residence and drug intake. The questionnaire contains a history of kissing habits as greeting behaviour besides the other roles that supposedly spread infection.

Results An entire 45 patients were engaged. Their mean (\pm SD) age was 37 ± 17.8 years; 39(86.7%) were males, and 6 (13.3%) were females. The right cheek kisser was the most common habit in 36(80%) patients, while 9 (20%) patients had both sides kissed. This report showed that” molluscum contagiosum” infection involved the right side of the face in 33 (73.3%) patients, while the left or both sides of the face were affected by the disease in 6 (13.3%) individuals. ”Molluscum contagiosum” of the right side of the face was statistically significant associated with the right cheek kisser, $p < 0.05$.

Conclusion Kindly kissing as a greeting can play an essential role in the spread of “molluscum contagiosum” infection. Furthermore, social pressures to discontinue face kissing as a greeting.

Key words

Molluscum contagiosum; Viral particles; Skin infection; Friendly kissing; Cheek kisser.

Introduction

“Molluscum contagiosum” is a common skin disease caused by a large double strand DNA “molluscum contagiosum virus”, which belongs to the Pox viridae family. The humans are natural host.^{1,2} Disease is primarily transmitted by direct contact of viral particles of infected skin, autoinoculation, shared bath towels, contaminated fomites, sponges or gymnasium

equipment. Also it has been associated with the use of the swimming pool.^{2,3}

It is characterized clinically by small pink or skin colored umbilicated papules and nodules, the lesions may be single or multiple, usually widespread and distributed on the face, trunk and extremities excepting the palms and soles, intertriginous regions and genitals. In adults, most of the cases are transmitted by sexual contacts, and lesions are most frequently located in the genitals, perianal area, lower abdomen and thighs.⁴⁻⁶

The differential diagnoses include: infectious (Verruca vulgaris, Chickenpox, Folliculitis);

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neoplastic (Syringomas, Steatocystoma multiplex and Basal cell carcinoma); Miscellaneous (Acne vulgaris, Milia, Sebaceous hyperplasia, and Papular urticarial).^{2,7}

Social pressures can induce population level laterality and there is a variation of laterality between populations. They show that social pressures for “cheek kissing” are involved in the determination of laterality. In France, the typical greeting is “cheeks kissing”, for saying goodbye and/or hello.^{8,9} This behavior occurs very frequently and it is part of our social life.

Friendly kissing habit could be responsible of transmission of “molluscum contagiosum” infections. Avoiding this habit is a promising way to avert the infection.

Methods

A clinical descriptive study was conducted in the Department of Dermatology and Venereology, Ramadi Teaching Hospital and Private Dermatological Clinic, Anbar, Iraq, from August 2019 till April 2020.

Forty-five patients (older than fifteen years old) complaining of “molluscum contagiosum” of the face were enrolled in this study. A history was taken regarding age, genders, marital status, residence, drugs intake. The questionnaire contains history of kissing habits that usually done in Iraqi society including right cheek kisser and followed by kissing of the right shoulder, or two sides’ kisser as greeting behavior.

Definitions: “Kissing individual” is the approaches of a person to the other to kiss. A “right cheek kiss” occurs when an individual kisses the right cheek of the receiver. A “left cheek kiss” is individual kisses of left cheek.^{8,10}

Additionally, detailed history of suspected roles of spreading infection was taken like sharing

clothes, bath towels, shaves, swimming pool and gymnasium equipment.

The diagnosis was achieved depending on the clinical bases. The eligible cases with “molluscum contagiosum” involving the face only were enrolled, either the right, left or both sides of the face. Also the face was divided in to main landmarks (cheek, frontal, temporal, perioral and periorbicular). The cases in which the disease affects other body sites were excluded. Also the number of lesions and the duration of illness were reported. Laboratory studies were done and they include complete blood counts, random blood sugar, viral screen (HIV Ab- Ag test) and pregnancy test (for females).

Excluding criteria include: family history of “molluscum contagiosum”, atopic dermatitis, diabetes mellitus, immunocompromised patients, or those on immunosuppressive drugs, pregnancy, topical steroid and topical non-steroidal agents like tacrolimus.

Inclusion criteria include: immune competent patients, more than fifteen years old, with “molluscum contagiosum” of the face only, the research did not involve other parts of the body, and those without family history of same disease.

The statistics were studied using the programs: Excel 2010 and SPSS version 22. The hypothesis was verified using Chi square tests, and the differences between percentages tests took the probability of ≤ 0.05 as the lowest limit of significance.

Results

An entire of 45 patients were engaged. Their mean (\pm SD) age was 37 ± 17.8 years (range 15-59 years); 39 (86.7%) were males, and 6 (13.3%) were females. There were significant

differences in the residency, 33 (73.3%) of patients lived in urban area, while 12 (26.7%) individuals were in rural areas.

The mean (\pm SD) duration of the illness was 20 ± 10.28 days (range 4-40 days), while the number of lesion range between 1-34 with mean (\pm SD) about 11 ± 9.46 . Complete blood counts, random blood sugar were within normal, viral screen (HIV Abs- Ag test) and pregnancy test for females were negative.

Regarding the suspected routes of disease transmission, the right cheek kisser was the most common habit in 36 (80%) patients, while 9 (20%) patients mentioned the both sides kisser and they did not remember who kiss them and if he or they had molluscum contagiosum on their faces. The other routes of infection were in small percentage, 6 (13.3%) patients shared bath towels, 6 (13.3%) cases had swimming pool, 3 (6.7%) subjects share electric shaves, and no one had gymnasium equipment participation (**Table 1**).

This report showed that “molluscum contagiosum” infection with high frequency involved the right side of the face in 33 (73.3%) patients and it had low frequency in 6 (13.3%) cases for each left or both sides of the face (**Table 2**).

Table 1 Frequency of suspected route of molluscum contagiosum transmission.

	Frequency	Percentage
Personal HX of kissing		
Right side	36	80.0
both	9	20.0
Sharing bath towel		
Yes	6	13.3
No	39	86.7
Sharing shaves		
Yes	3	6.7
No	42	93.3
Swimming pools		
Yes	6	13.3
No	39	86.7

Table 2 The frequency of sites involvement by molluscum contagiosum of face.

	Frequency	Percent
Right	33	73.3
Left	6	13.3
Both	6	13.3
Total	45	100.0

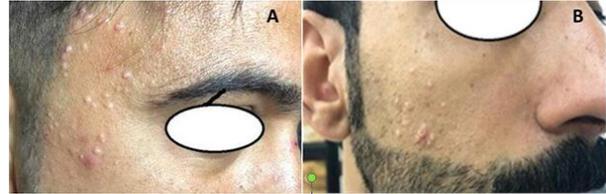


Figure 1 Shows two patients with molluscum contagiosum. A. Involving the right cheek; B. Involving the right temporal part of the face.

Table 3 The personal history of kissing * site in face Cross tabulation.

Personal history of kissing	Site in face			p value
	Right	Left	Both	
Right	30 (83%)	3 (8.3%)	3 (8.3%)	0.01
Both sides	3 (33.3%)	3 (33.3%)	3 (33.3%)	

“Molluscum contagiosum” of the right side of the face was statistically significant associated with the right cheek kisser, $p < 0.05$ (**Table 3**).

Inoculation of viral particles was according to the face landmarks which appeared on the cheek in 25 (55.6%) patients (**Figure 1**), cheek perioral in 9(20%) subjects, 3 (6.7%) cases for each part (temporal, frontal perioral, frontal temporal), and 2 (4.4%) individuals had lesions at cheek frontal (**Figure 2**).

Discussion

To our knowledge, this is the first study which presents the epidemiology of “molluscum contagiosum” skin infections of the face among young and adults in Iraq. It has generally been assumed that “molluscum contagiosum” infection of adult patients is mainly acquired from an infected genital area and it considered as sexual transmitted infection.¹¹

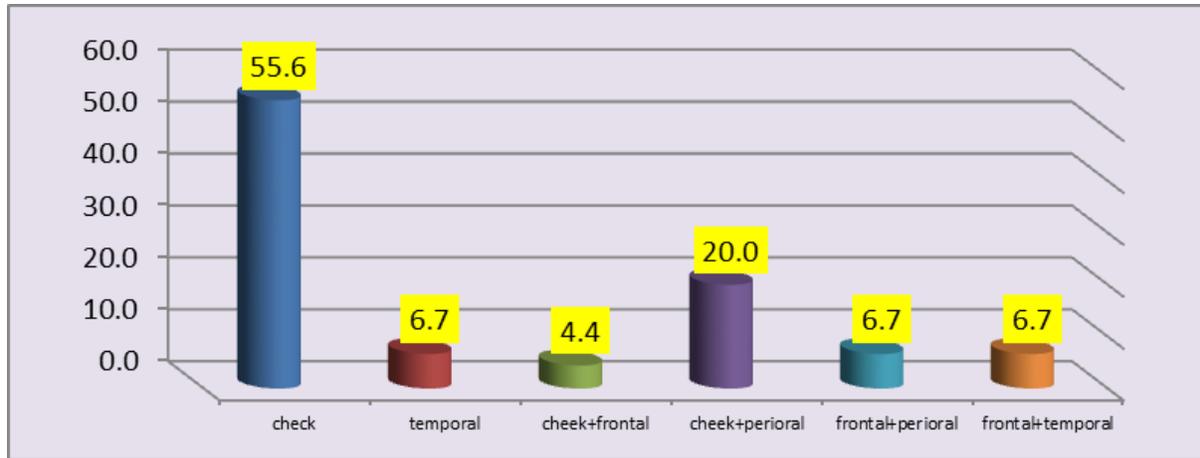


Figure 2 Shows the frequencies of patients with molluscum contagiosum according face landmark.

“Molluscum contagiosum” is a common skin infection in children involves the face and/ or trunk areas.⁶

The present work data align with the first empiric evidence that “molluscum contagiosum” transmitted from man’s face to another face, wherever the kissing may play a role. Right side friendly kissers with right shoulder (covered by cloth) kisser are common habit of greeting (80%), even after few hours of separation.³ This is significantly associated with high frequency of “molluscum contagiosum” infection of the right side of the face (73.3%), $p < 0.05$. Besides that, the main area of infections of the face is cheek (55.6%) and cheek perioral (20%) and these are the major sites in touch. This is one possibility that increases suspicions that kissing has a role in spreading of viral particles.

Another possibility is significant increase of males (86.7%) ratio among patients than females (13.3%) because the friendly kissers among men are more than women in our community. Also, men spend more time outside home, unlike other studies that were previously published, and it was found that no difference in incidence between males and females.¹² However, high male sex ratio was found in a study from Japan due to their habits associated with the spread of the infection such as swimming which causes

outbreaks that occur among children who bathe or swim together.¹³

Third risk is the elevated virulence of the infected agent and by time it becomes more contagious. Pathogens evolve towards higher levels of virulence; this is a major challenge in the control of infectious disease.^{14,15}

Last possibility, this research has been carried out in a city which has only one swimming pool with low frequency about (13.3%) play as a transmitter of infection. The idea of sharing bath towels (13.3%) of cases and electric shaves (6.7%) of subjects are little ratio and refused among people in this society, this leads to low effects rate as a primarily transmitter of virus. While another previous studies, highlighted on swimming pool, bath towels, contaminated fomites, sponges or gymnasium equipment as a major viral particles source.^{2,3,13}

The limitations of the study were the small sample, beside that the disease treated by nurse before recording them; the diagnosis depend only on clinical examinations without the histopathological study and also a missed past history of immunosuppressive drugs intake.

Conclusion

Friendly Kissing as a welcoming plays

important role in the spread of “molluscum contagiosum” infection. Furthermore, social pressure to discontinue face kissing habit as greeting is needed and restricts kissing to right shoulder (covered with cloth). Furthermore people promotion of self-skin check, and they should be encouraged to report immediately any skin lesion.

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