



Measurement of MASI score among Libyan melasma patients

Authors

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Abstract

Background: *Melasma is a very common skin disorder. It is most common in young women with brownish skin tan, but it can affect anyone. The Melasma Area and Severity Index (MASI), an outcome measure developed to provide a more accurate quantification of the severity of melasma and changes during therapy.*

Objectives: *The aim of this study to describe the clinico-epidemiological pattern of melasma and to assess the melasma severity by applying MASI score.*

Subjects and Methods: *One hundred patients with melasma were exposed to detailed disease history and complete dermatological examination and MASI score was calculated.*

Results: *Out of 100 patients, 89% were female and 11% were male. 66% of the patients the site affected was centrofacial followed by malar that seen in 32%. MASI score was mild in 26% of patients, moderate in 73% of cases and severe in only 1% of the patients.*

Conclusion: *Melasma in men is definitely less common than in women, but shares the same clinical characteristics as in women. Majority of our patients had moderate MASI score. Among male patient no one had severe MASI score. Forehead and chin regions showed less severe involvement as compare to right and left malar regions.*

Keywords: *melasma, hyperpigmentation, Melasma Area & Severity Index (MASI).*

Introduction

Melasma is a common, acquired hypermelanosis that occurs in sun-exposed areas, mostly on the face, occasionally on the neck, and rarely on the forearms^[1].

There are three major patterns of distribution of the lesions: centrofacial (forehead, nose, chin, and upper lip), malar (nose and cheeks) and mandibular (ramus mandibulae)^[2].

The Melasma Area and Severity Index (MASI), an outcome measure developed to provide a more accurate quantification of the severity of melasma and changes during therapy, was developed by Kimbrough-Green et al^[3].

From its appearance under Woods lamp melasma is classically classified into epidermal, dermal and mixed types; people with darker skin (type IV, V, or VI) are more frequently affected^[2].

Objectives

The aim of this study to describe the clinico-epidemiological pattern of melasma and assess MASI score in Libyan patients.

Subjects and Methods

In a cross-sectional study 100 patients with melasma attending out-patient clinic, dermatology department, Aljamhoria hospital, Benghazi-Libya; were exposed to detailed disease history and complete dermatological examination. Woods light examination was done to every patient and MASI score was calculated^[4].

Results

The study included 100 patients, 89% were female and 11% were male. There was female preponderance with a female to male ratio of approximately 8.1:1. The mean age 30.7±7 years, there was no significant difference between the mean age of male and female. Duration of disease was ranged between one month and 6 years. Family history of melasma was recorded in 9% of the patient.

Regarding the site involved, 66% of the patients the site affected was centrofacial followed by malar that seen in 32% (Fig. 1). The majority of the patients (58%) the type of lesion was presented as confluent macules followed by punctate macule in (20%) of patients , 13% was mixed and 9% was longitudinal macules, also the highest in both sex was in confluent macules 81.8% in male and 55% in female (Fig. 2).Regarding the skin phototype and tanning intensity, the data showed 66.3% were type VI and 27% type III. Woods light examination showed that melasma was epidermal type in 86% and dermal type in 11% of our cases.

According to MASI score, it was mild in 26% of patients, moderate in 73% of cases and very severe in only 1% of the patients (Fig. 3).

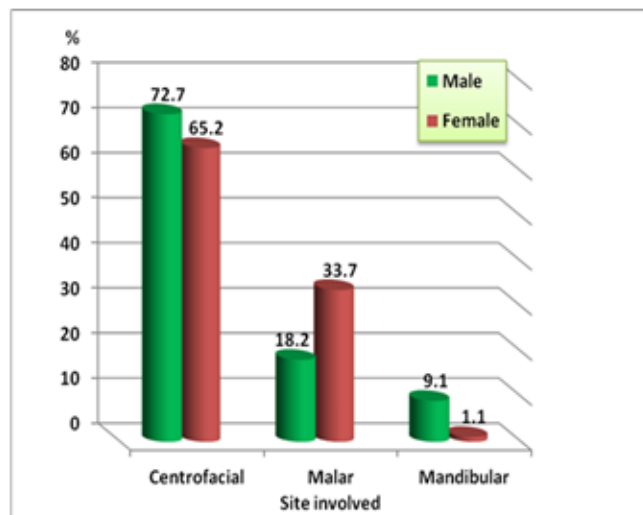


Fig. 1 Site involved by melasma

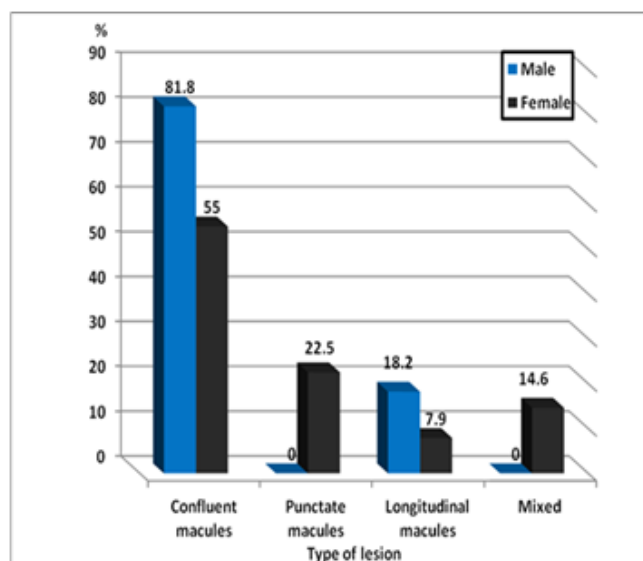


Fig. 2 Clinical presentations of melasma

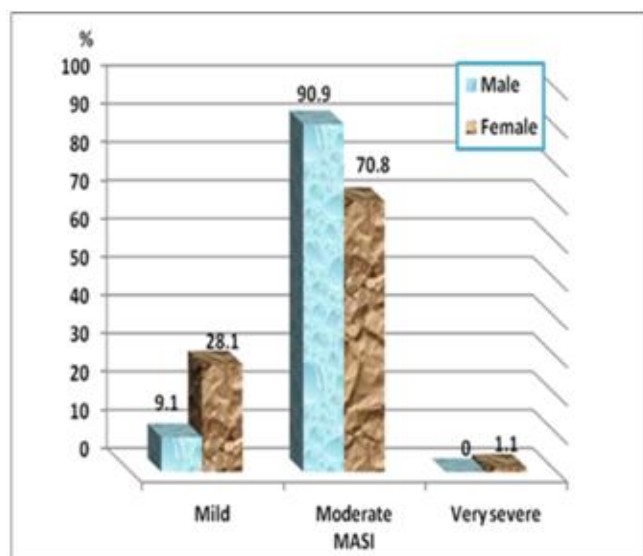


Fig. 3 Melasma Area Severity Index (MASI) scores.

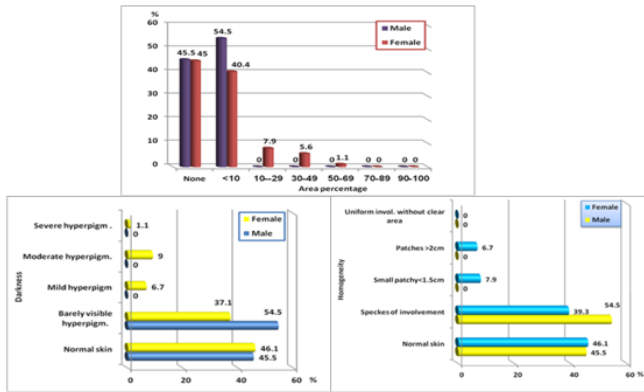


Fig. 4 MASI score for Forehead region

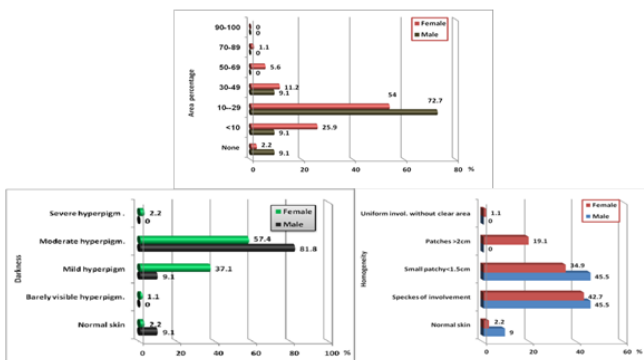


Fig. 5 MASI score for Right malar region

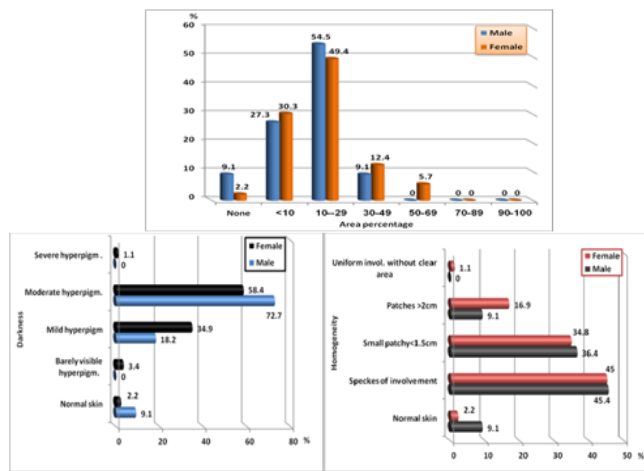


Fig. 6 MASI score for Left malar region

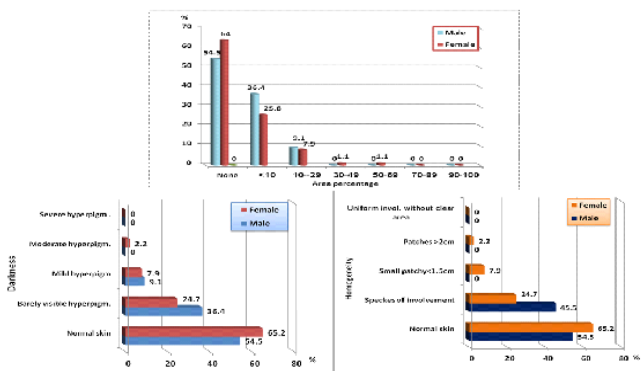


Fig. 7 MASI score for Chin region

Discussion

Among the total patients enrolled in our study, 89% were females and 11% were males. There was female preponderance with a female to male ratio of approximately 8.1:1, which was similar to other study where female to male ratio was 4:1^[5].

Latinos associate melasma with ill health and poor nutrition, and melasma is considered disfiguring^[6]. The higher incidence of melasma in females may be attributable to a hormonal influence as in pregnancy, use of oral contraceptive pills, and the use of cosmetics^[7]. In our study the age ranged from 18 to 64years (mean age 30.7±7 years); there was no significant difference between the mean age of male and female, which was similar to other study where the mean age of onset was 29.99 years, with the youngest and oldest being 11 and 49 years respectively^[5]; compared with the mean age of onset was 42.3 years reported in a study from Singapore^[8].

In our study female in age group ≤20 years was 12.4% and in age group 21-25 years was 19.1%, but no male in these age groups, which seem to be that the females affected in age group younger than men. 45.5% of male was in age group 26-30 years, which was similar to age group 36-40years, 29.2% of female was in age group 31-35years and the lowest in age group >40years, in other study about 60% developed melasma before thirty^[9].

The commonest site involved in melasma was centrofacial (66%), followed by malar 32% and only 2% mandibular. centrofacial was the highest in both sex, it was 72.7% in male and 65.2% in female followed by malar 33.7% in female and 9.1% in male, this result was similar to the result of other study where centrofacial was the most common pattern (55.44%) observed^[5].

However, studies from Singapore observed that malar distribution was the most common^[8]. Also in other study 105 patients (65%) had malar distribution, 55 (35%) had centrofacial type, and none had mandibular type^[10].

In similar study showed that the difference in clinical pattern of melasma between men and

women was statistically significant^[7]. This discrepancy of results might be due to environmental or regional differences.

In our study skin phototype IV constitute 67%, type III 27% and 6% type V, no significant difference between both sex.

In other study done in Tunisia 14% presented phototype III, 45% phototype IV and 41% phototype V; 76% presented a centrofacialmelasma phenotype^[11]; also in similar study they found that skin phototype II (12.8%), III (36.3%), and IV (39.7%)^[12].

Woods light examination results, epidermal type was constitute to 86% , dermal type 11% and mixed type 3% , in male the results was 72.7% epidermal type, 27.3% dermal type and no one had mixed type, while in female 87.6% epidermal type, 9% dermal type and 3.4% mixed type, while in other study the Wood light examination showed the dermal type being the most common in 54.48% and epidermal type and mixed type were seen in 21.47% and 24.03% of the cases, respectively^[6].

According to melasma severity, we found that MASI score was mild in 26% of our patients, moderate MASI score in 73% and severe MASI in 1%; this is in contrast to the results that had been reported by Hacer Uyanikoglu and Mustafa Aksoy^[13]; were they found 81 patients out of 101 patients had mild disease (MASI score from 0-16), and 20 patients had moderate disease (MASI score of 17-32), and no patient had severe disease (MASI score of 33-48).

We found that in male 90.9% moderate, 9.1% mild and no one had sever, while in female 70.8% was moderate, 28.1% mild and only 1% very sever MASI score.

MASI score for Forehead darkness showed that 46% had normal skin and 39% had barely visible hyperpigmentation with no difference between genders. Forehead homogeneity equal percentage of normal skin and 41% of specks of involvement. In forehead area of MASI score, 45% had none and 42 patients (42%) had less 10% (Fig. 4).

MASI for the Right malar area darkness showed moderate hyperpigmentation in 60%, homogeneity with patches < 1.5 cm in 45.5% and the area was 10-29 % in 56 patients (56%) (Fig. 5).

MASI score for left malar region darkness showed the same percentage of moderate hyperpigmentation while for homogeneity more specks of involvement that seen in 45% and in 50% of cases the area was 10-29 % (Fig. 6).

MASI score for the chin region darkness presented that 64% of patients had normal skin and 26% of them had barely visible hyperpigmentation with no difference between males and females. While homogeneity and with the same percentage of normal skin and almost equal percentage of none involved area and non-significant difference in both sexes (Fig. 7).

Conclusions

Melasma in men is definitely less common than in women, but shares the same clinical characteristics as in women. Majority of our patients had moderate MASI score. Among male patient no one had severe MASI score; and 90% of them had moderate score. MASI sores for both forehead and chin regions showed that most patients had normal skin or barely visible hyperpigmentation regarding the darkness, homogeneity and had none or < 10% area of involvement. Whereas both right and left malar regions majority of our patients showed moderate hyperpigmentation regarding the darkness, specks of involvement and small patchy <1.5 cm for homogeneity and majority of the patient , the area was, <10 % and 10-29%.

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