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EFFECTIVENESS OF UNANI MEDICINE IN TREATMENT OF KALAF (MELASMA): A CASE REPORT

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Case Report

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ABSTRACT

Introduction: *Kalaf* (Melasma) is an acquired facial hyper-melanosis on sun exposed parts. It has significant impact on participant's quality of life and leads to development of various personality disorders. It is a frequently encountered aliment in the outpatient department of the hospitals and clinics. Worldwide its prevalence varies between 1.5 and 33.3%. In India its incidence is about 0.25% - 4%. It mostly occurs during 3rd and 4th decades of life (21-44 ages).

Materials & Methods: It is a Case report on 52 year old female patient diagnosed as a case of *Kalaf* (Melasma) managed through Unani treatment. Assessment was made on the basis of significant change in MASI, DLQI (Dermatology Life Quality Index), and PGA (Physician Global Assessment) and coloured photographs.

Observation & Results: Observation was done before treatment after treatment and during follow up. Mean MASI score decreased from 10 to 7.

Conclusion: Different effective regimes are available in Unani system of medicine (USM) for the treatment of Melasma. Those treatments are effective and having fewer side effects. In the present paper the case studies of a female patients suffering from Melasma can treated with Unani formulations is reported. This case study documented the successful treatment and prevention of recurrence of melasma through Unani medicines .It concluded that the Unani regimen was effective and safe in the management of melasma.

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Keywords: DLQI (Dermatology Life Quality Index), *Kalaf* (Melasma), Melanosis, PGA (Physician Global Assessment), personality disorders,

INTRODUCTION

The word melasma is originating from the Greek word "melas" which means black, referring to the dark patches on the skin. The disease is also described in ancient literature since the time of Hippocrates (470-360 AD). [1]In Unani medicine, melasma is a humoural disorder. It is hypothesized that disproportion of *sawdawi* humour in terms of quality and quantity causes melasma.[2] *Kalaf* (Melasma) is an acquired hyperpigmentation on the sun-exposed parts such as cheeks, forehead, nose, chin and upper lip.[3] Worldwide its prevalence varies between 1.5 and 33.3%.[4]Melasma is a notable cosmetic concern with a global impact. The exact prevalence of melasma remains uncertain in South Asia, with estimates ranging from 0.25% to 4%. [5,6] In India, melasma ranks

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as one of the most prevalent hyperpigmentary disorders, but precise prevalence data vary across regions. It mostly occurs during 3rd and 4th decades of life (21-44 ages).[7] It is female predominant mostly occurs during the reproductive period of their life, 70% melasma occurs in pregnancy. 10% males are affected.[4] Melasma has an impact on quality of life. Participants develop self-consciousness, personality disorder and express frustration secondary to the melasma. The sufferers of this disease generally avoid going in public places such as garden, jogging, gym and wedding ceremony.[8] Melasma is a curable disease but it requires long term treatment. It has been observed that recurrence after cessation of treatment is a most common problem. In conventional therapy application of hypopigmentary drugs produces various side effects such as skin irritation, rashes, redness and allergy.[9]They are banned in developed countries such as Japan, USA, and Europe.[10] These challenges make difficult to treat melasma. It also creates psychological, emotional and economic burden on the patients and their family.[11] Melasma is generally observed in darker complexion peoples such as Asians, Hispanic and Africans.[12, 13] Peoples having Fitzpatrick skin type IV–VI are prone to develop melasma. In addition, sun exposure, pregnancy and oral contraceptive pills are the main cause of melasma.[14,15,16,17] Endocrine dysfunction or hormone treatment, phototoxic cosmetics and drugs have been identified as risk factors for development of melasma.[18] Furthermore, stress has also been linked to melasma, as stress induces the release of melanocyte stimulating hormone. Family history plays an important role to develop melasma in some cases. Nowadays cosmetics having heavy metals are very dangerous to the health are being develop melasma. Melasma is a dysfunction of melanin pigmentary system which is responsible for determination of the colour of skin. Melanin is synthesized from L-tyrosine. Tyrosinase enzyme helps in the conversion of L-tyrosine to melanin in melanosomes. Unavailability of effective treatment and recurrence after cessation of the treatment are the most common problems faced by health care providers. Although, there are a number of hypopigmentary drugs available in the market. But they are not sure shot treatment for melasma. They are accompanied with unbearable serious side effects such as rashes, burning sensation, erythema and itching. Unani medicine claims effective treatment for melasma. These claims are documented in authentic classical books, National Formulary of Unani Medicine (NFUM) and Unani Pharmacopoeia of India. [19]

Case:

52 years old female patient visited to the Mohammadia tibia college & assayer hospital (Mansoora), Malegaon in outpatient department, with complaints of light to dark brown spots appear on cheeks, upper lip, chine, nose and forehead. The patient is well then she develops small brown spots on cheeks and slowly these spots are increases in their size and affect other part of face.

On Examination:

A 52 year old female was 152cm tall with weight 56 kg so BMI is 24 kg/m. The heart rate was 86/min while B.P was 120/80 mm Hg with 98.6F temperature, respiratory rate was 18/min. The heart, lung, abdomen and renal system were normal. Pallor was present and jaundice and cyanosis were absent. She was married female taking Oral contraceptive pills to avoid pregnancy since 6 years but appetite was reduced hence bowel habit not cleared with reduced frequency and quantity of micturition. Family history was positive her mother and elder sister had melasma after menopause since 4 to 6 yrs. On Nervous Systemic Examination patient was well oriented to time, place and person with intact higher mental function (memory, speech & intelligence). All Cranial nerve from 1 to 12 were normal. Superficial reflexes (planter reflex, abdominal reflexes and Wartenbergs sign were normal. Deep reflexes (Bicep, triceps, ankle, knee and finger flexion, supinator reflexes) were Normal. Cardiovascular system (CVS) was normal on inspection. Apex beat is palpable in 5th ICS without any tenderness. On auscultation S1-S2 heard, no any added sound and no murmur was found. Respiratory system was normal chest was B/L symmetrical with normal movement with no any scar and tenderness, with normal resonating note and Air entry bilaterally equal (AEBE). Abdomen was scaphoid in shape; umbilicus was normal, no any scar mark or venous engorgement. On percussion Dullness present over the abdomen and no fluid trill and shifting dullness. Bowel sound was 5-7t/minute.

Diagnosis:

The patient was diagnosed on the basis of physical examination, Dermoscopy and calculates, MASI (Melasma Area Severity Index) Score, coloured photograph, DLQI (Dermatology life quality index) score, and PGA (Physician Global Assessment) score

were recorded. MASI scores, DLQI score, and PGA were assessed clinically at every follow-up at 12 week intervals. Coloured facial photographs were taken at the beginning and on completion. Safety assessment Haemogram, Liver Function Test (LFT), and Kidney Function Test (KFT) were done before and after treatment.

Intervention and follow-up:
The participant received following Unani compound formulations for 12 weeks.

Joshanda Mussafi (JM): As a decoction 100 ml twice a day (Gul-e-Mundi *(Sphaeranthus Indicus)*, 100gm, Gul-e-Surkh *(Rosa Damascene)*, 100gm, Shahetra *(Fumaria Oficinalis)*, 100gm, Chirata *(Swertia Chirata)*, 100gm, Sarfoka *(Tephrosia Purpurea)*, 100gm, Gul-e-Neem *(Azadirachta Indica)*, 100gm) 5, 5 gm morning and evening.[20]

Sufoof e Aslossus (SA): make fine powder of Aslossus *(Glycerrhiza Glabra)* 100gm and mixed well with Aab-e-lemon and applied daily at night on affected part of face.[20]

In Unani system of medicine these formulations are used to treat clinical conditions such as *amraz e jild* (skin diseases) and *fasad khoon* such *as* Pityriasis Nigra *(Bahaq aswad)*, Freckles *(Barash)*, Nevus *(Namash)*, *Skin tag (Khilan)*, Mole (*Til)*, Eczema *(Narfarsi)*, Acne (Bashoor), Ringworm *(Quba)*, Psoriasis *(Daul Sadaf)*, Urticaria *(Shara)*, Chicken pox *(Humaiqua)*, Herpes zoster *(Namla-e-Saiyyah)*, Scabies *(Jarab)*, Melasma *(Kalaf)* and many more.[20,21] Glycyrrhiza glabra has active constituents Liquorice which help in dispersing the melanin, Inhibition of melanin biosynthesis and Anti-inflammatory property. The ingredients in these formulations boost immunity so helps to improve fungal and bacterial infections.[22,23] These have anti-inflammatory properties so reduce skin inflammation and also act as a blood purifier's hence promote better circulation can reduce or fade marks, scars and improve tone (whitening) of the skin.[22,23] The patient was followed up every 8 days to monitor his health condition for 12 weeks. The patient was supplied medicines from the dispensary of the hospital every 8 days to observe compliance to the therapy.

Observation and outcome:
The efficacy of Unani formulation was assessed by objective parameters in terms of Melasma Area and Severity Index (MASI) score. The MASI score at baseline was 10. It was reduced to 7 after 12 weeks of treatment. The Melasma Quality of Life Index was 55 at baseline. It was reduced to 40 after 12 weeks of the treatment. Similarly PGA score was 5 at base line than reduced to 3 after 12 weeks of the Unani treatment.

Before Treatment

After Treatment

DISCUSSION:

In this case series, it was observed that the Unani regimen comprising of these formulation *Joshanda Mussafi and Sufoof- Aslossus (Glycerrhiza Glabra)* were effective and safe in the management of Melasma. This Unani regime was formulated keeping in mind the principles of treatment for Pigmentary disorders as per therapeutic approach of Unani System of Medicine. Hypopigmentary drugs are used for the cure of hyperpigmentary disorders. Melasma is due to multiple causes such as hereditary and use of OC pills in this case. The effectiveness of the Unani regimen in these cases might be explained in terms of pharmacological actions of the formulations which mainly hypopigmentary anti-inflammatory activity, immune tonic, rejuvenative activity. **Joshanda Mussafi**: Unani blood purifiers act by detoxifying the blood and removing harmful substances *(fuzlat)* from the bloodstream. They enhance liver and kidney function, which are responsible for filtering and cleansing the blood. These medicines help correct the imbalance of humors *(Akhlat)*, especially *Safra* (bile) and *Sauda* (black bile), which cause blood-related disorder. Some blood purifiers have cooling and anti-inflammatory properties, reducing internal heat and soothing the skin. They also stimulate the excretory system, promoting the elimination of toxins through urine, sweat, or stools. In chronic skin conditions, they improve blood quality, which supports healing and reduces recurrence of symptoms.[24] ***Sufoof-e-Aslossus (Glycyrrhiza glabra)***: have active constituents Glabridin (the most studied compound for skin-lightening), Liquiritin, Licochalcone A and Liquorice which help in dispersing the melanin, Inhibition of melanin biosynthesis, Tyrosinase Inhibition (Glabridin inhibits tyrosinase, an enzyme crucial for melanin production, thereby reducing hyperpigmentation), Antioxidant Effect (Liquorice extract has strong antioxidant properties that help protect the skin from oxidative stress, which can worsen melasma.), Depigmenting Activity (Liquiritin helps in dispersing melanin and improving pigmentation) and Anti-inflammatory property (It reduces inflammation, which is often a contributing factor in the pathogenesis of melasma). The ingredients in these formulations boost immunity so helps to improve fungal and bacterial infections. These have anti-inflammatory properties so reduce skin inflammation and also act as a blood purifier's hence promote better circulation can reduce or fade marks, scars and improve tone (whitening) of the skin.[23] Effective management is resolving symptoms and countering the recurrence of the disease. The affordability, availability, and side effects of prolonged use of allopathic drugs remain a challenge and concern. The discovery of safer and more effective fairness drugs remains an area of active research at present. Excellent tolerance and acceptability were observed in a patient without any reported side effects. These results indicate that Unani compound formulations produce significant improvements MASI (Melasma Area Severity Index) Score, coloured photograph, DLQI (Dermatology life quality index) score, and PGA (Physician Global Assessment) score and Colour photograph. Hence, it may be concluded that the above drugs can be used safely and effectively for the treatment of melasma. Randomized clinical trials are needed to reveal a new and novel therapeutic option for satisfactory treatment of Melasma through Unani classical drugs.

CONCLUSION

Kalaf (Melasma) is a Pigmentary skin disorder. According to the Unani concept, many factors are responsible such as uncontrolled sun exposure, pregnancy, prolonged amenorrhea and morbid fluid mixed with blood, skin inflammation, fire, heat, excessive intake of alcohol and bad or heavy diet. Effective management is resolving symptoms and countering the recurrence of the disease. The affordability, availability, and side effects of prolonged use of allopathic drugs remain a challenge and concern. The discovery of safer and more effective hypopigmentary drugs remains an area of active research at present. Excellent tolerance and acceptability were observed in a patient without any reported side effects. These results indicate that Unani compound formulations produce significant improvements in subjective and objective parameters. Hence, it may be concluded that the above drugs can be used safely and effectively for the treatment of *Kalaf* (Melasma). Randomized clinical trials are needed to reveal a new and novel therapeutic option for satisfactory treatment of *Kalaf* (Melasma) through Unani classical drugs.

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