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Clinico-epidemiological features of vitiligo patients attending outpatient dermatology department in Tripoli central hospital 2020

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Background: *Vitiligo is a common progressive depigmenting skin disease.*
Methods: *a case series study was conducted over a period of one year at dermatology department, Tripoli central hospital .*
Results: *Of the 170vitiligopatients, nearly two-thirds were femaleand one third were male. The majority belonged to the adult age group. The most prevalent clinical form of vitiligo wasacrofacial type(40.6%) followed by the V vulgaris (38%).Most of our patients (69%) had disease onset in the first three decades. Extremities (42.9%) followed by Face (28.8%) were the most commonly affected parts of the body at the onset of the disease. Emotional upset (57%) and physical traumas (30.8%) were the frequently reported triggering factors of vitiligo. Family history of vitiligo was present in49.4% of the patients. An association with other systemic disorders was in 26.5%patients and predominately included atopic diseases and thyroid abnormalities. Premature graying of hair in patients or their family was present in20.6%. Halo nevi were observed in 4.7% of the patients.*
Conclusion: *The clinico-epidemiological profile of vitiligo in region was not similar with that found globally.*

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I. Introduction

Vitiligo is a common progressive depigmentingskindisease. New classifications have been suggested (TheVitiligoGlobalIssuesConsensus Conference): Segmental vitiligoand Non-segmental vitiligo.[1]The latter is used as an umbrella for different subtypes of vitiligo including acrofacial,generalized, mucosal and universal vitiligo. Universal vitiligo involves80-90% of body surface. Focal vitiligois a small isolated patch with no segmental distribution and does not evolve to NSV after a period of at least two years and classified as an indeterminate form. The indeterminate form comprises isolated mucosal involvement and focal vitiligo.Mucosalvitiligois involvement of the oral and/or genital mucosa.Vitiligo is a multifactorialdisorder; genetic, immunological,biochemicaland neurogenic factors.[2]Additionally, factors like trauma, hormonal changesand stress have a role.Vitiligohas frequently been associated with other autoimmune diseases (Thyroid disorders, diabetes mellitus, alopecia areata, pernicious anemia, and others).This might be due to the fact that autoantibodies against different organ systems may also affect the melanocytes.Manystudies have reported that patients with vitiligo have elevated organ- specific autoantibodieswithor without overtautoimmune diseases.[3]Autoimmune and nonautoimmune disorders have been reported in up to 30% of vitiligo.[4]Among autoimmune diseases, the strongest association is with thyroid diseases.The association between vitiligo and halo naevi is well established:several reports have documented the onset of vitiligo at the same time or shortly after the appearance of a halo nevus.[5]Premature graying of hair is graying of hair before the age of 20 years in Caucasian and before 30 years in African.Vitiligo patients as well as other family members frequently have premature graying of hair.[6]

This study aims to explore the clinico-epidemiological features of vitiligo patients attending the outpatient department.

II. Methods:

Study design:was a case series study.
Study place: vitiligo clinic in dermatological outpatient department,Tripoli central hospital.
Study period: from January 2020 to December 2020.
Study population: All Vitiligo patients attending the clinic for diagnosis and treatment which were 170 patients.

Study tool: by interviewer questionnaire which included demographic data such as (age of patient, sex of patients),clinical data as age of onset of vitiligo,skin type, types of vitiligo,site of lesion, family history, history of atopy in patient and in the family, koebner phenomenon, Associated autoimmune disease in patients, autoimmune diseases in family, premature grying of hair, halo naevus in patients, triggering factors.
The inclusion criteria:libyan patients with clinical diagnosis ofvitiligo.
Exclusion criteria: we excluded patients who presented with other diseases causing depigmentation or hypopigmentation, which were excluded clinically, by KOH examination, wood's lamp examination and skin biopsy as in suspected cases of hypopigmented mycosis fungoides.
Data management and analysis: The data collected was edited and analyzed with SPSS version 20. descriptive statistics; Frequency, means, standard deviation were used and inferential statistical tests (Chi square test) was used in Significance level of 5%.
Ethical issue; Ethical approval from head of dermatology department in the central hospital, verbal consent was taken from the patients.

III. Results:

from the total of 170 vitiligo patients attending the out patient dermatology department in the given period; 112(65.9%) were female and 58(37.1%) were males, with minimum age 2 years and maximum age was 65years with range of 63yrs, the mean age was 29.99±16.11 as shown in (fig-1), the most common age group affected by the disease was from 20yrs to 50yrs which was 97(57%), next to that age 10yrs to19yrs which was 33(19.4%), most of them (42.4%) their age of onset of vitligo was from 10yrs to 30yrs, next to that (24.7%) more than 30yrs to 50yrs as shown in (fig-2), the age of patients and age of onset is statistically significant with the gender of vitiligo patients (p =.,000). The most common affected site of vitiligo was the extremities of patients, in 73(42.9%) and facial was 49(28.8%) as shown in (fig-3), and there is difference in site of occurrence ofvitilligo between male and female which is statistical significant (p=,024). The most prevalent clinical form of vitiligo was acrofacial (40.6%), while (38.2%) had vitligo vulgaris, (7.6%) focal vitiligo,(7.1%) segmental vitiligo, (3.5%) had vitiligouniversalis and (2.4%) mucosal vitiligo(Table-1), the type of vitiligo showed statistical significance in relation to the gender (p=,005), the age of patient (p=0.001)as well as the site of vitiligo(p=0.000). Approximately 97(57%) of the patients were affected by stress preceding the onset of vitiligo, (30.8%) was Physical trauma. The koebner phenomena was positive in 52 (30.6%) of patients and had an association with the type of vitiligo(p=0.049) and with the age of patients(p=0.047). The family history of vitiligo was positive in nearly half of patients 84(49.4%) which was significantly associated with age of onset of disease (p=0.018), it was positive in first degree relatives in (28.8%) of patients with vitiligo vulgaris, (24.6%) of patients with acrofacialvitiligo, while was negative in first degree relatives of patients with segmental vitiligo.The family history of atopy was positive in 83(48,8%) of patients, the family history of autoimmune disease was negative in 114(67%).The two most commonly associated diseases are atopic diathesis in (21.8 %) of patients and thyroid diseases present in (5.89%) of patients, (3.5%) of patients had other autoimmune diseases while history of autoimmune disease was negative in 145(90.6%) of patients. Halo nevi were observed inonly (4.7%) of the patients, premature graying of hair in patients or their family was present in (20.6 %) of patients.

IV. Discussion

In our study,females were found to be more affected than males, this was in agreement with various studies like that of India by S. Dave et al.[7] A.O. Somorin et alreported male predominance.[8]Vitiligo affects both genders with equal frequency in Najran region, Saudi Arabia by L. Al-Mubarak et al.[9]The predominance in females maybe related to a higher aesthetic concern among the female population.In this study, the mean age of our patients was 29.99±16 years which is nearly in agreement with that in the study of J.Jarallah et al.[10]Adults were affected more than the younger individuals which is similar with the study conducted in the Saudi Arabia byS. Handaand Kaur.[11]Although in india,S. Agarwalreported children and adolescents as more suffered groups.[12] Acrofacialvitiligo was the most common form,this was in agreement with various studies like that done by S. Agarwal et al in India.[13]and disagreed with the studies done in manipal hospital India by R.Reghu et al where53.7% of their patients had vitiligo vulgaris and only 13.8% had acrofacialvitiligo by J.-B. Liu et al in china.[14] and south of Tunisia by JalelAkrem et al.[15]where vitiligo vulgaris is the commonest type. However, it is difficult to comprehend the mechanisms underlying varying clinical patterns of vitiligo patients. Although vitiligo may develop at any time in life, the commonest age at onset of our patients was the first three decades of life in (69.09%).Like the study done in Sudan byM. Ali et al, onset of vitiligo at birth was not detected too.[16]The onset in early infancy or old age is uncommon. Extremities followed by Face were the most commonly affected parts of the body at the onset of the disease. In contrary, the face was the most common site in a study done by Gauthier al.[17]The exposed and trauma-prone sites such as the limbs and face may develop vitiligo lesions more easily in genetically predisposed individuals.Emotional disturbance and physical trauma

were majorly reported as possible precipitating factors of vitiligo, Koebner's phenomenon remains important factor both for onset of vitiligo and tendency of lesions localization, this was evident in this study from common sites of onset being extremities and face. In our study Koebner's phenomenon occurred in (30.6%) of the paeients with significant relation between koebner phenomenon and site of vitiligo (P=0.049) which agree with previous reports by in the studies of Kiprono.[18]Stress and fear was considered a cause of contracting vitiligo by (58.3%), similar to studies conducted by D. S. Shankaret al.[19]]Such precipitating factors might be related to quality of living. About half (49.4%) of our patients had family history of vitiligo, this was higher than study conducted by U.Pajvani et al (20%).[20]A common practice of consanguineous marriage in our society might be a reason. Genetic factors, as in patients with affected first-degree relatives, have been suggested to influence the age of onset of vitiligo, in our study a significant association was found (P=0.018),this agree with some study, although some scholars have found that a family history had no correlation with the location, distribution or course of the diseaselike study byR., Manciniet al [20]. we also found that non segmental vitiligo had much higher percentage of positive family history in first degree relatives; (28.8%) in vitiligo vulgaris and (24.6%) in acrofacial type than non-segmental vitiligo (0%), suggesting that non segmentalvitiligo has a closer relationship with heredity, this disagree with previous reports by Handa S. Dograet al.[21] Multiple linked genes associated with vitiligo,but genetic factors are only considered as the background mechanism of vitiligo and not the dominant mechanism as suggested by Perfetti.[22] From our patients (21.8%) had atopic diathesis, a result which is near to that reported by KhaledEzzedineet al.[23]Previous studies found that the proinflammatory state of AD may predispose toward melanocyte destruction, while scratching of pruritic AD lesions may koebnerizevitiligo. In previous studies, Pre-pubertal onset vitiligo is strongly associated with personal and family history of atopy, suggesting that the predisposing immune background in vitiligo is not limited to autoimmunity[24] , but in our study pre-pubertal onset vitiligo didn't show association with personal (P=0.065) or family (P=0.088) history of atopy, in our study (5.89%) of the patients had history of thyroid disease, the association between vitiligo and autoimmune thyroid disorders was well established.[25] so screening vitiligo patients for thyroid disorders seem reasonable. A commonly found associated systemic disease in vitiligo patients were diabetes mellitus, alopecia areatabut this is not found in our study.

In our study, halo nevus was reported in (5.3%) of the patients and in general population is estimated to be 1%.Halo nevi association in NSV affects age at onset[26] and depigmentation pattern and has a stronger link with familial premature hair graying.[27] Halo nevi in our patients showed no association with age of onset or pattern of depigmentation.

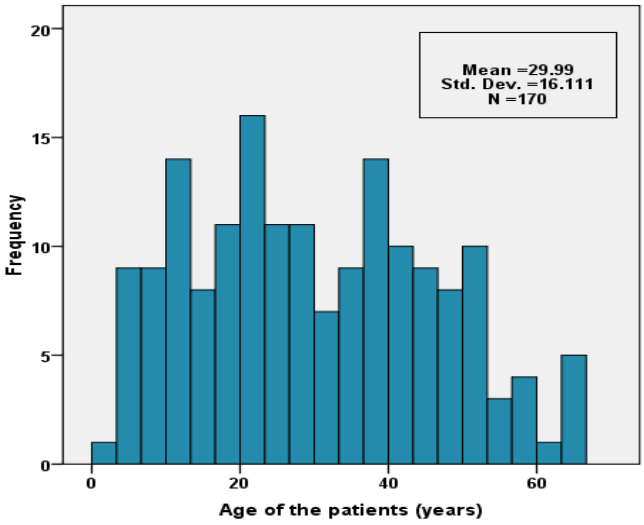

Figure-1 : distribution of the patients according to the age

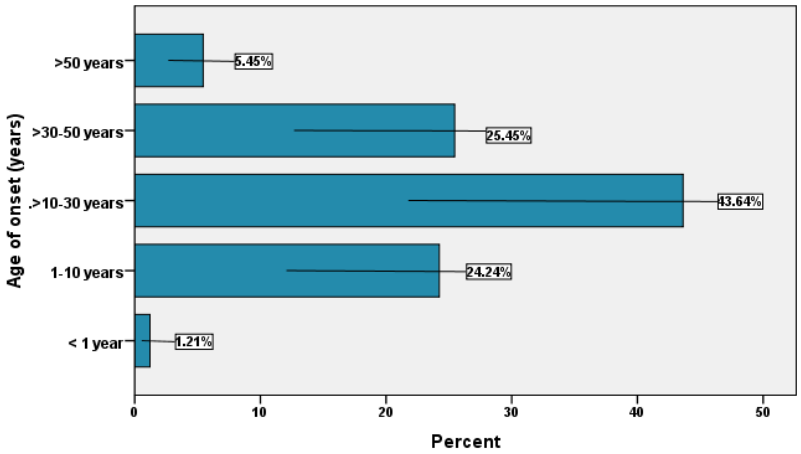

Figure-2 : distribution of the patients according to the age of onset of the disease

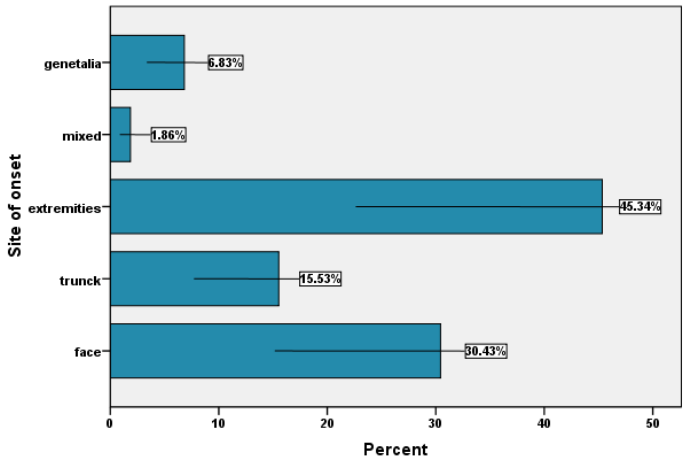

Figure-3 : distribution of the patients according to the site of onset of the disease

Table-1 : clinical characters of the patients:

	№	Percent
Clinical type of vitiligo :		
Vitligo vulgaris	**66**	**38.8%**
Acrofacialvitiligo	**69**	**40.6%**
Focal vitiligo	**13**	**7.6%**
Segmental vitiligo	**12**	**7.1%**
Vitiligouniversalis	**6**	**3.5%**
Mucosal vitiligo	**4**	**2.5%**
Triggering factors (stress):		
Yes	**99**	**58.3%**
No	**71**	**41.8%**
Koebner's phenomenon:		
Yes	**52**	**30.6%**
No	**118**	**69.4%**
Family history:		
vitiligo	**84**	**49.4%**
atopy	**83**	**48.8%**
autoimmune disease	**56**	**32.9%**

Table-2 : Associations & risk factors in the patient:

	№	percent
Halo Nevus : positive Negative	**9** **161**	**5.3 %** **94.7 %**
Premature graying of hair: positive in patient positive in family positive in both negative in both	 **4** **23** **8** **135**	 **2.4 %** **13.5 %** **4.7 %** **79.4 %**
Association with atopy in the patient : positive negative	 **37** **133**	 **21.8 %** **78.2 %**
Association with autoimmune disease : thyroid disease other autoimmune disease no autoimmune disease	 **10** **6** **154**	 **5.89 %** **3.5 %** **90.6 %**

V. Conclusion& recommendation

- In our study, females were found to be more affected than males. The mean age of our patients was 29.99±16 years, Adults were affected more than the younger individuals. Acrofacial vitiligo was the most common form, the commonest age at onset of our patients was the first three decades of life. in our study (5.89%) of the patients had history of thyroid disease.
- Multicentre large population studies are needed to find out the prevalence of vitiligo among Libyans.
- screening vitiligo patients for thyroid disorders seem reasonable, in an effort to detect potential thyroid diseases or to assess the risk of future onset.

Limitations of the study

Relatively small size sample depending on single center experience,

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