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ACNEIFORM ERUPTION IN IRAQI POPULATION

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ABSTRACT

Background: Acneiform eruptions are common and important variants of acne vulgaris, that are result from a wide variety of causes, including infections like pityrosporum folliculitis, drug like steroids and hair epilation. **Objective:** To evaluate the clinical, histopathological, and microbiological aspects of acneiform eruptions and its' relation to presence or absence of pityrosprum folliculitis. **Materials and Methods:** This is clinical and histopathological descriptive study that was conducted in department of dermatology, Baghdad teaching hospital from October 2017 to October 2018, where a total number of 212 patients with acneiform eruptions were included in this study. the frequency of different types of acneiform eruptions were analyzed according to the clinical features, microbiological and histopathological examination. **Result:** A total number of 212 patients were seen, their ages ranged from14-40(23.04+_5.97) years.

Patients were divided into the following:

1. Steroid-induced acneiform eruption78/212(36.7%) patients,40(51%) 0f them were females and 38(48.7%) males with females to male ratio 1.05:1
2. Pityrosporum folliculitis 50/212(23.5%) patients,36(72%) of them were males and 14(28%)females with males to females ratio 2.5:1 30/212(14%) were primary pityrosporum folliculitis 20/212(9.4%)patients were secondary pityrosporum folliculitis
3. Post-hair epilation acne38/212(18%) patients. all of them were females.
4. Behcets' disease-associated acneiform eruptions 19/212(9%) patients,13(68%) males and6(32%)females with males to females ratio2.1:1
5. Polycystic ovary syndrome 12/212(5.7%)patients
6. Cosmrtic acne 6/212(2.8%) patients
7. Drug-induced acneiform eruption other than steroid 4/212(1.9%) patients
8. Tropical acne 3/212(1.4%) patients
9. Occupational acne2/212(0.9%)

From all these patients we collected 20 cases of secondary pityrosporum folliculitis,19 cases from the steroid therapy and 1 case seen with behcets' disease, so the total cases of pityrosporum folliculitis were 50 cases,30 caces primary pityrosprum folliculitis and 20 cases secondary pityrosporum folliculitis. The pityrosporum folliculitis was more common among males than females with a male to female ratio of 2.3:1. The back was the predominant site that was affected in patient with primary pityrosporum folliculitis, in contrast to other types of acneiform eruption where different sites may be involved like buttock and thighs in behcets' disease, face in patient with polycystic ovary syndrome, upper arms and trunk in patients with post-hair epilation acne. **Conclusions:** Acneiform eruption is an important problem, where many causes were observed in this study Pityrosporum folliculitis was common variant seen.

KEYWORDS: Acneiform eruptions, Pityrosporum folliculitis, Steroid acne.

INTRODUCTION

Acneiform eruptions are follicular eruptions characterized by papules and pustules resembling acne lesions.[1]

Acne like eruptions results from a wide variety of diseases, including infections(e.g pityrosporum folliculitis), growth anomalies(e.g nevus comedonicus), and drug reactions(e.g steroid acne.[2]

These eruptions are not necessarily confined to the usual sites of acne vulgaris. they are distinguished by their sudden onset, usually in a patient well past adolescent.[1]

Following administration of glucocorticoids or corticotrphin, a folliculitis may appear. This is very uncommon in children but may occur in any adult as early as two weeks after steroids are started. Similar lesions may follow the prolonged application of topical glucocorticoids to the face.[3]

Hair epilation is a common maneuver that is practiced by females and males and often followed by acneiform rash but unfortunately was not reported in medical literatures. It is usually resolve spontaneously leaving post inflammatory hyperpigmentation.[4]

Behcets' disease is a chronic relapsing disease characterized by multiple signs and symptoms.

Such as recurrent orogenital ulceration eye involvement, skin manifestation and other systemic affection.[5] The papulpustuar skin lesions are the most characteristic of behcets' disease.[6,7] pseudofolliculitis defined as round and red elevated oedema with a diameter of 10 to 20 mm. the lesion surmounted in its' center around and non-acuminated pustule.[6,7] They are situated mainly on the lower limbs but can be seen everywhere except on the back and face. Pseudofolliculitis and acneiform nodules are common in male patients.[8]

Pityrosporum folliculitis is a common inflammatory skin disorder. Its ' an infection of the hair follicle that is thought to be caused by the common cutaneous lipophilic yeast like fungus, malassezia furfur (pityrosprum ovale) and possibly other strains of malassezia.[8,9]

The rash of pityrosporum folliculitis is dimorphic with erythematous papules and pustules, affecting mainly the upper back and some time the adjacent area are involved, and are usually pruritic.[10,11]

AIM OF THE STUDY

Although acne vulgaris is a common disease, but there are many skin problem that may simulate acne vulgaris so called acneiform eruptions. The aim of this study is to shed light on the clinical histopathological and microbiological aspects of acneiform eruptions and their relation to pityrosporum folliculitis in Iraqi population.

MATERIALS AND METHODS

This is descriptive, clinical and histopathological study that was carried out in the department of dermatology and venerology of Baghdad teaching hospital, from October 2017 to october2018. A total of 212 patients were included in this study, all of them had papular and/or pustular follicular skin lesions on the trunk, face and /or other sites of the body.

Detailed history was obtained from all of the patients regarding the following: age, sex, occupation, complaint of patients like itching and burning, aggravating factors noticed by the patient(hot climate, drug, hair removal) past medical history(any chronic disease)past surgical history, drug history especially steroid, topical drug, or cosmetics.

Previous history of acne vulgaris, menstrual history, and its' relation to the disease was also reviewed.

PHYSICAL EXAMINATION

Examination of patients was performed by

*Clinical examination was done regarding the site of the lesion whether on the face, chest, back upper arms, or other sites such as thighs, abdomen and buttock. The type of the lesion whether polymorphic or dimorphic (popular, pustular, papulopustular or nodular).

*woods' light examination : all patients were examined in a darkened room by woods' light where the test might be positive(a bright yellow –green color or some time bright blue or white fluorescence for patients with pityrosporum folliculitis.

*skin scraping test was taken for each patient by dissolving the scraped material in 10% koh solution where a numerous spores and other yeast forms were seen in case of pityrosporum folliculitis

Biopsy of skin lesion was taken for 36 patients and stained with hematoxylin and eosin and pas stain. the case was diagnosed as pityrosporum folliculitis if cluster of spores are detected within dilated keratin filled follicles surrounded by inflammatory cell infiltrate.

Patients in this study were divided into 9 groups according to the above mentioned clinical examination and laboratory tests as following:

1- Steroid-induced acneiform eruptions
2- Pityrosprum folliculitis

The diagnosis depend on the following criteria:

a. The typical rash of primary pityrosporum folliculitis is pruritic dimorphic erythematous, follicular papules and pustules with absence of comedones. lesion occur mainly on the trunk but face also involved in a few cases

b. Woods; light examination test.

c. Positive skin scraping test by direct microscopic examination.

d. Positive skin biopsy stained with pas stain.

This group had further subdivided into 2 groups:

a) Primary pityrosporum folliculitis

the patient in this group had no obvious causative factor.
b) Secondary pityrosporum folliculitis.
All patients in this group had underlying causes for their acneiform eruption but secondary pityrosporum folliculitis was encountered simultaneously in these patients.
3. Post-hair epilation acneiform eruptions
4. Behcets' disease-associated acneiform eruptions.
5. Polycystic ovary syndrome
6. Cosmetic acneiform eruptions
7. Drug-induced acneiform eruption other than steroid
8. Tropical acne
9. Occupational acne

Formal consent was taken from each patient before taken biopsy and scraping of the skin.

Ethical approval
The ethical approval was obtained from scientific council of dermatology and venerology-arb board for medical specializations.

RESULT
A total number of 212 patients with acneiform eruptions were seen, their ages ranged between 14-40(23.04-+5.97)years. the117(55.1%)patients were females and 95(44.8) were males with females to males ratio 1.2:1.

Patients were divided into the following groups

1. Steroid-induced acneiform eruption were 78/212(36.7%) patients, 40(51%) of them were females and 38(48.7%)males with females to males ratio 1.05:1. steroid acne was observed as monomorphous papulopustules located predominantly on the trunk and extremities(53.3) with less involvement of the face(22%). Regarding topical therapy the rash was noticed to be localized to the site of drug application while oral and injected treatments were result in generalized rash. Types of steroid therapy inducing steroid acneiform eruptions were 42(53.8%), injected steroids, 14(17%), oral steroids, and 22(28%) was topical therapy.

2. Pityrosporum folliculitis: 50/212(23.5%) patients, 36(72%) of them were males and 14(28%) females with males to females ratio2.5:1.
(a)30/212(14%) patients were primary pityrosporum folliculitis. Patient with primary pityrosporum folliculitis had no obvious causative factor. These patients had the following criteria:

The rash distributed mainly on the chest and back 15(5o%). The morphology of the lesions were mainly papulopustular24(80%). While the others were polymorphic 6(20%)

Itching is the most common complaint seen in 27(90%) patients, while hot weather and sweating were the most commonest leading aggravating factor in26(86.7) of cases.

(b) 20-212(9.4%) patients had secondary pityrosprum folliculitis. All patients in this group had underlying causes for their acneiform eruptions but secondary but secondary pityrosporum folliculitis was encountered simultaneously in these patients.

13(65%) of them were males and 7(35%)were females with males to females ratio 1.8:1

Secondary pityrosporum folliculitis seen mainly in steroid acneiform eruption, 19(95%) patients and 1(5%) patient observed in patients with behcets' disease.

The rash distributed mainly on the chest, back and upper arms16(80%) patients. The morphology of the lesion were mainly papulopustular 19(95%) patients. The steroid therapy was the commonest underlying cause in this group of patients 19(95%).there was no statistically significant differences between primary and secondary pityrosporum folliculitis regarding the type of the lesion, site of the lesions or associated findings, also there were no much differences between rash of primary pityrosporum folliculitis and rash of steroid acne.

3. post-hair epilation acneiform:38/212(18%) patients. All of them were females. The morphology of the lesion was mainly papulopustuar that was distributed either on the face, trunk, or upper extremities according to the site from which the hair was removed. Itching and burning were the main associated symptoms. The method of hair removal was sugaring in 44.7%, threading in34.2%, both sugaring and threading in 21%.

4. behcets' disease-associated acneiform eruption:19/212(9%)patients, 13(68%)males and 6(32%) females with males to females ratio 2.1:1. All of the cases are collected from referral center. The rash distributed mainly on the thighs, abdomen and buttock(85%), while the rest involve chest and back (15%). The face was not involved. Painful lesions were present in 35% of patients while the itching was present in 10%. there were many clinical differences between primary pityrosporum folliculitis and rash of behcets' disease-associated acne.

5.polycystic ovary syndrome:12/212(5.7%)patients. All cases were females. The morphology of rash was polymorphic and distributed mainly on the face.

6. cosmetic acne:6/212(2.8%) patients. All cases were young females have history of cosmetic application for long time. The morphology of the rash was polymorphic and located mainly on the face.

7.drug- induced acneiform eruption other than steroid:4/212(1.9%) patients. The causative drugs were: antituberculous2(50%), thyroxine2(50%)

8.trpical acne3/212(1.4%)patients, which are seen in humid and hot climates(one patient from Basra) and two patients from Baghdad but were furnace workers.

9.occupational acne2/212(0.9%):seen in patient using gas which is mixture of kerosene and machine oil.

When we did compare between primary folliculitis and steroid acneiform eruption we found no significant differences apart from the site of lesions. In steroid acne, the face could be involved in addition to trunk, while in pityrosporum folliculitis, the trunk was the main site of involvement.

There was no statistically significant differences between primary and secondary pityrosporum folliculitis regarding type of lesion(p-value 0.134). site of lesion(p-value0.38), or associated finding(p-value0.63). There was statistically significant differences between primary pityrosporum folliculitis and behcets' disease associated acneiform eruptions regarding the site and type of the lesions. In behcets' disease the morphology of the rash was pustular rather than polymorphic, distributed mainly on the thighs abdomen and buttock. The rash tend to be painful rather than itchy.

DISCUSSION

Acne vulgaris is a chronic inflammatory disease of pilosebaceous unit. it is polymorphic disorder characterized by formation of comedones-which are either close(white heads) or open (black head), papules, pustules, nodules and pseudocysts.[12,13]

Acne vulgaris is a common disease but there are many skin problems that may simulate acne vulgaris so called acneiform eruptions like steroid acneiform rash, pityrosporum folliculitis, drug- induced acneiform rash, behcets' disease-associated acneiform eruption and post-hair epilation acne.[2]

Acneiform eruption mainly composed of monomorphous papulpustular lesions but sometimes consist of comedones, cysts or nodules that resemble acne vulgaris. Occasionally this may lead to their initial misdiagnosis.[2]

Acneiform eruption can result from multiple etiological factors. Steroid therapy commonly used by Iraqi patients either prescribed by the patients themselves or occasionally prescribed by the doctors. Steroid-induced acneiform eruptions is the commonest type of acneiform eruptions that was encountered in the present study(36.7%). The frequency is approximately equal between males and females. steroid acne was observed as monomorphus papulopustules located predominantly on the trunk and extremities with less involvement of the face. Characteristically appeared after administration of topical and systemic steroid particularly injected therapy. Regarding the histopathology steroid acne shows similar histologic features of acne vulgaris despite the apparent absence of comedones.[14]

Pityrosporum folliculitis is the second frequent type seen in our study(23.5%) and can occur as primary or secondary disease. Primary pityrosporum folliculitis was seen in 30(14%) and presumably caused by a host reaction to the yeast malassezia furfur, a normal human skin commensal.[2]

It appears primarily on the trunk and upper extremities of late adolescent and young adult. the pityrosporum folliculitis was found to be more common among males, this fact was proved by many other previous published studies.[15] unlike acne vulgaris the rash of pityrsporum folliculitis is pruritic, dimorphic, erythematous follicular papules and pustules with absence of comedones, lesions occur mainly on the trunk but face also involved in few cases. Hot weather and sweating were the commonest leading aggravating factor.

The yeasts and hyphae can be observed in biopsy specimens in the widened follicular ostia along with keratinous material and occasionally rupture of follicular may occur. Direct microscopic examination is an another method that have been used for diagnosis of pityrosporum folliculitis. Simple scraping to express the follicular content of keratotic papules or pustules, mounted them with 10% kOH and subsequently examined them microscopically, spores of pityrosporum ovale was seen in positive cases. Woods' light examination was also used to confirm the diagnosis and was also helpful.

Secondary pityrosporum folliculitis was seen in20(9.4%) patients and diagnosed by the same method described for primary pityrosporum folliculitis. steroid therapy attributed to all cases except for one patient who had behcets' disease associated acneiform eruption.

There was no statistically significant differences between primary and secondary pityrosprum folliculitis regarding type of lesion(p-value 0.134), site of lesion(p-value o.38), or associated finding(p-value0.63).

Hair epilation is a common maneuver that is practiced by hairy females and often followed by acneiform eruptions but unfortunately was not reported in medical literatures. Only one Iraqi study showed that hair epilation acneiform rash is a major hair removal problem among hairy Iraqi females where its' pathogenesis could be related to keratinocyte injury of the hair follicles.[4]

Post-hair epilation acneiform eruption was the third frequent type seen in this study (18%). The pathogenesis of hair epilation acneiform rash can not be understood well but can speculate that hair traction might induce local injury of hair follicle followed by cytokine release like(il1alpha,il6,il8,tnf-alpha) from injured keratinocytes.[4]

All patients with post-hair epilation acne were females. The methods of hair removal was sugaring in 44.7%,

threading in 34.2%, both sugaring and threading in 21%. The morphology of lesions were mainly papulopustular that was distributed either on the face, trunk or upper extremities according to the site from which the hair was removed. Itching and burning were the main associated symptoms.

Behcets' disease is relatively common among Iraqi populations. Twenty patients(9.4%) included in this study had behcets 'disease associated acneiform eruptions. This type was seen mainly in males with males to females ratio2.3:1. The morphology was pustular in majority of cases (85%), although most previous studies showed that the pustular lesions of behcets' disease are sterile pustules, but only one case in the present study showed pityrosporum folliculitis. The rash was distributed mainly on the thighs, abdomen and buttock (85%) while the rest involved chest and back(15%) while face was not involved. Painful lesions were found in 35% of the patients while the itching was present in 10% Other types of acneiform eruption included in this study were: polycystic ovary syndrome associated acneiform eruption(5.7%), cosmetic acne(2.8%), drug-induced acne other than steroid(1.9%), tropical or hydration acne(1.4%), and occupational acne (chloracne)(0.9%).

CONCLUSIONS

In conclusion, acneiform eruptions are common and important variants of acne vulgaris. Acneiform eruptions could be differentiated from acne vulgaris by their clinical and histopathological features.

Pityrosporum folliculitis is an important of acneiform eruption and should be considered in a young adult with an itchy papulpustular follicular eruptions affecting the trunk. Other acneiform eruptions included steroid-induced acneiform eruption, behcets' associated acneiform eruption, post-hair epilation acne, cosmetic acne, polycystic ovary syndrome, drug-induced acneiform eruption other than steroid acne and occupational acne.

Recommendation

We strongly recommended not to give topical and systemic steroids unless strongly indicated especially for young patients. Also hair epilation is not advised especially among males and hair cutting is suggested as its' less harmful than epilation.

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