

Pityriasis Amiantacea: Its Clinical Aspects, Causes and Associations; a Cross Sectional Study

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Abstract This cross sectional study was done in Al-Kindy Teaching Hospital in Iraq in the period between October 2010 and October 2012. The aim of this study was to shed light on pityriasis amiantacea regarding its clinical aspects, causes and associations. Seventy six patients with pityriasis amiantacea were enrolled in this study including 26 (34.21%) male and 50 (65.78%) females. Their ages ranged between 3 months to 68 years and the median was 13 years. Full history and detailed clinical examination was done for each patient. Swab for culture and skin scraping as well as hair plucking for mycological examination to detect any bacterial and fungal infections was done to all patients. Skin biopsy and histopathological examination were done for only ten cases. The most age group affected was between (10-19) years that represents (36.8%). Pityriasis amiantacea was more common in female patients (65.8%). The disease was generalized in 48 (63.15%) patients, localized in 24 (31.57%) patients while the diffuse involvement of the scalp was in 4 (5.26%) patients. The results revealed that pityriasis amiantacea in 45 (59.2%) patients was caused by psoriasis, seborrheic dermatitis, atopic dermatitis and tinea capitis respectively. Twenty three patients (30.26%) were found to have a secondary bacterial infection and the highest figure of secondary bacterial infection in patients with pityriasis amiantacea were found in atopic dermatitis patients (66.67%).

Keywords Pityriasis amiantacea, Psoriasis, Seborrheic Dermatitis, Atopic Dermatitis, Tinea capitis

1. Introduction

Pityriasis amiantacea is a characteristic eruption of unknown etiology.⁽¹⁾ It was first described by Alibert in 1832, and was called 'la porrigine amiantacée' because its scales resemble the grayish substance surrounding the feathers of juvenile and molting birds and have the appearance of asbestos (amiante).^(2,3) Some authors believe that pityriasis amiantacea is a form of eczema or psoriasis.

One patch or several patches of dense scale appear anywhere on the scalp and may persist for months before the patient notices temporary hair loss or the distinctive large, oval, yellow-white plates of scale firmly adhered to the scalp and hair.

Characteristically, the scale binds to the hair and is drawn up with the growing hair. Patches of dense scale range from 2 to 10 cm. The scale suggests fungal scalp disease, which explains the designation tinea. Amiantacea, meaning asbestos, refers to the plate-like quality of the scale, which resembles genuine asbestos.

Hair loss, sometimes cicatricial, is seen in pityriasis amiantacea.⁽¹⁾

The aim of this study is to shed light on pityriasis amiantacea regarding its clinical aspects, causes and associations.

2. Patients and Method

This cross sectional study was done in Al-Kindy Teaching Hospital in Iraq in the period between October 2010 to October 2012. This study was approved by the ethical committee in Al-Kindy Teaching Hospital.

All cases presented with a scaly scalp were clinically assessed and those who were diagnosed as pityriasis amiantacea were included in this study.

Seventy six patients with pityriasis amiantacea were enrolled in this study including 26 (34.21%) male and 50 (65.78%) females. Their ages ranged between 3 months to 68 years and the median was 13 years.

Each patient or their parents received a complete explanation of the nature and purpose of the study and an oral consent was taken before they were included in this study.

Full history and detailed clinical examination was done for each patient emphasizing on the following: age, sex, age of onset, family history of the disease and when there is pruritus, its severity was assessed subjectively by the

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patient into mild, moderate or severe. In addition to the degree of extension of pityriasis amiantacea (localized, generalized or diffuse) and the presence or the absence and type of hair loss.

Swab for culture and skin scrapping as well as hair plucking for mycological examination to detect any bacterial and fungal infections was done to all patients.

Skin biopsy and histopathological examination were done for only ten cases.

3. Results

3.1. Age Distribution

The age of the included patients ranged from 3 months to 68 years with median of 13 years.

The most age group affected was between (10-19) years that represents 36.8%, while the least figure was in the age range between (40-49 years) representing 1.3%. Fig 1

3.2. Gender Distribution

Pityriasis amiantacea were more common in females patients 50 (65.8%) than males 26 (34.2%) patients.

3.3. Duration of the Disease

The duration of the disease was extending from 2 months to 35 years with a median of 5 years as shown in table 1.

Table 1. The duration of Pityriasis amiantacea cases

Duration (years)	No. of cases	Percentage %
<10	56	73.7
10—19	13	17.1
20—29	3	3.9
≥30 years	4	5.3
Total	76	100

3.4. The Family History

The family history of pityriasis amiantacea was positive in 31 (40.8%) patients.

3.5. Pruritus

The pruritus was reported in 66 amiantacea patients (86.84%). Thirty patients of them showed a mild pruritus (39.47%); In 26 (34.21%) patients, the pruritus was moderate while it was severe in 10 patients (13.15%).

3.6. Hair Loss

Hair loss was seen in 18 (23.68%) patients; seven tenth patients (22.7%) were with non scarring and only one patient (1.31%) was with scarring alopecia.

3.7. Degree of Pityriasis Amiantacea

The disease was generalized in 48 (63.15%) patients, localized in 24 (31.57%) patients while the diffuse involvement of the scalp was in 4 (5.26%) patients.

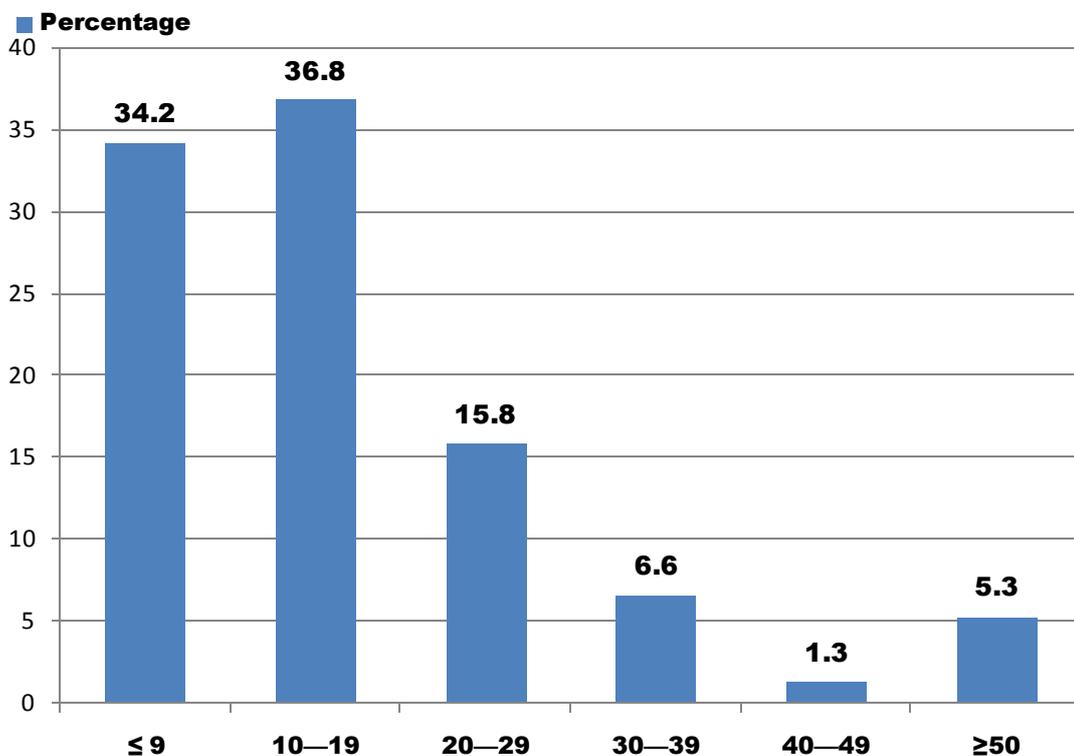


Figure 1. Distribution of pityriasis amiantacea patients according to age

3.8. Underlying Pathology

These results revealed that the underlying pathology of pityriasis amiantacea in 45(59.2%) patients was caused by psoriasis, followed by other causes such as seborrheic dermatitis in 17(22.4%) patients, atopic dermatitis in 6(7.9%) patients and tinea capitis in 8(10.5%) patients, as shown in the table 2 below.

The results of histopathological examination often patients goes with psoriasis in five patients which was comparable with the clinical diagnosis; in the other five patients the histopathological examination goes with dermatitis, depending on the patient's profile, we cited these patients into either atopic or seborrheic.

Table 2. The diagnosis of Pityriasis amiantacea cases

Diagnosis	No. of cases	Percentage %
Psoriasis	45	59.2
Seborrheic Dermatitis	17	22.4
Atopic Dermatitis	6	7.9
Tinea capitis	8	10.5
Total	76	100

3.9. Secondary Bacterial Infections

Twenty three patients (30.26%) were found to have a secondary bacterial infection; the distribution of these patients according to etiology is shown in table 3.

The highest figure of secondary bacterial infection in patients with pityriasis amiantacea were found in atopic dermatitis patients 4 (66.67%) patients followed by seborrheic dermatitis in 10(58.82%) patients.

None of pityriasis amiantacea patients caused by tinea capitis found to have secondary bacterial infection.

Table 3. Distribution of amiantacea patients with secondary bacterial infection according to aetiology

Disease	Patients with 2ry bacterial infection no. (%)	Patients without 2ry bacterial infection no. (%)	Total no. (%)
Psoriasis	9(20)	36(80)	45(100)
Seborrheic Dermatitis	10(58.82)	7(41.18)	17(100)
Atopic Dermatitis	4(66.67)	2(33.33)	6(100)
Tinea capitis	0	8(100)	8(100)

4. Discussion

Pityriasis amiantacea is a reactive process of the scalp often without evident cause or it may be observed as complication or sequel of streptococcal infection, seborrheic dermatitis, atopic dermatitis or psoriasis.^(2,4)

Despite that pityriasis amiantacea is a well known distinct clinical entity, for the best of our knowledge, there were limited number of researches about its aetiology and associations.

Abdel-Hamid *etal* and Knight G^(5,6) had revealed that

pityriasis amiantacea may occur at any age from 5 years up to 63 years. In our study, the age ranged from 3-68 years. This variation in the age ranges might be attributed to the wide range of age groups of the underlying pathology.

As previously demonstrated, Pityriasis amiantacea appears primarily to affect the younger age groups.⁽⁵⁾ The most commonly affected age group in this study was between 10-19 years while the least affected group ranged from 40-49 years. This is similar to previous reports. However, the most commonly involved age group is dependent on the underlying pathology.

Our study appointed female predilection in a ratio of 1.9:1. This is similar to previous published studies which had revealed that females were affected more than males.^(5,6,7,8)

Although female predilection can be explained by the fact that females in our society seek medical care for cosmetic reason more than males, the actual female: male ratio would eventually follows that of primary disease.

All the patients in this study showed a duration of pityriasis amiantacea extending from 2 months to 35 years. This is identical to what had previously published.⁽⁵⁾ The wide variation in the duration could be closely attributed to the underlying pathology. The inflammatory diseases like psoriasis, atopic and seborrheic dermatitis may takes a long course with exacerbation and remission.^(9,10) while diseases of infectious origin as tinea capitis takes a shorter course.^(2,7,11,12)

This study reported pruritus in 66 patients (86.84%); thirty patients of them revealed mild pruritus, twenty six (34.21%) patients show moderate pruritus while ten others (13.16%) had severe pruritus.

Apparently, it seems that the existence and the severity of pruritus are chiefly related to the disease of origin; e.g. in patients with atopic dermatitis confined to the scalp that associated with adherent silvery scale suggesting pityriasis amiantacea, the pruritus is usually a major feature.⁽⁷⁾

Hair loss has been variably reported in pityriasis amiantacea.

In this study, eighteen (23.07%) patients had an on scarring hair loss and only one showed a scarring hair loss associated with tinea capitis.

It has been reported that pityriasis amiantacea is associated with temporary hair loss.^(6,8,13) Cicatricial alopecia is sometimes seen in psoriasis;^(5,14) although it may occur, common scalp psoriasis is not a frequent cause of alopecia.⁽¹⁵⁾ It has been suggested that scarring alopecia may be related to secondary infection.⁽²⁾

Previous studies have addressed the potential relationship between PA and psoriasis^(3,4,5,6) as the most common cause^(4,5,6) and might be the first clinical manifestation.⁽²⁾

In this study, it become visible to us that most of the cases (59.21%) showed other clinical manifestations of psoriasis and 10 patients showed histopathological features of psoriasis.

Previous reports have suggested that PA is a manifestation of a localized form of seborrheic or atopic^(5,6,8,16,17,18) dermatitis. This was similar to the results of this study as

22.36% of the amiantacea patients was caused by atopic and seborrheic dermatitis.

An important consideration in the diagnosis of PA is to rule out the possibility of tinea capitis^(5,19) which may have therapeutic implications. As previously demonstrated⁽⁶⁾, tinea capitis was one aetiological factor of the eventual diagnosis in the last previous study;⁽⁶⁾ the results of this work appeared that tinea capitis found in 10.5% of patients.

Bacterial infections was also reported as an independent cause of pityriasis amiantacea.⁽⁵⁾ However, bacterial infections in this study found as secondary to the underlying cause of pityriasis amiantacea (e.g. secondarily infected atopic dermatitis or seborrheic dermatitis).

5. Conclusions

Our study revealed the underlying cause of pityriasis amiantacea is either psoriasis, seborrheic dermatitis, atopic dermatitis or tinea capitis respectively. Superadded secondary bacterial infection was found mostly in atopic patients.

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