

Seborrhoeic dermatitis in Saudi Arabia

Iqbal A. Bukhari, MD

Department of Dermatology, College of Medicine and
Medicine Sciences,
King Faisal University, Damman, Saudi Arabia

ABSTRACT

Background : Seborrhoeic dermatitis (SD) is a common chronic form of eczema that affects all age groups. The exact pathogenic mechanism is uncertain, but the lipophilic yeast *pityrosporum ovale* is believed to play a role. The data on SD from the Middle East are sparse. This study was undertaken to fill this gap in our knowledge.

Methods : A three year retrospective and a four month prospective studies were carried out to assess demographic, and clinical features of SD, precipitating factors and associated diseases.

Setting : King Fahad Hospital of the University, Al-Khobar, Saudi Arabia.

Results : Incidence of SD was 5.9% of all new dermatological referrals. It was age related, 30% in infants, 7% in children, and 63% in adults, no sex predilection, and was seen mostly in winter. Most commonly affected sites were the scalp and face and the predominant clinical lesions were the dry loose scaly and erythematous types.

Important associated conditions included acne vulgaris, diffuse hair fall, diabetes mellitus and obesity. Ambient temperature changes were more important contributing factors to SD than sun exposure.

Conclusion : SD is not uncommon in Saudi Arabia, especially in winter. It occurs more frequently in adults than infants in whom distribution is different. This suggests different pathogenetic mechanism. Ambient temperature changes affect SD and probably not the solar radiation in our desert environment. Further studies are needed to elucidate the aetiology.

Key Words : Epidemiology - Seborrhoeic Dermatitis-Saudi Arabia.

INTRODUCTION

Seborrhoeic dermatitis (SD) is a common chronic type of eczematous skin disease characterized by sharply marginated red patches and greasy scales

which are localized to areas rich in sebaceous glands^(1,2). The aetiology of SD is unknown, however some infectious agents and particularly lipophilic yeast *pityrosporum ovale* have been suggested to play a role in its pathogenesis^(3,4,5,6). It is, however, uncertain if the basic pathogenetic mechanism is inflammatory or infectious. The condition is generally considered to be a chronic type of endogenous eczema which might require lifelong suppressive therapy⁽¹⁾. To the best of our knowledge, studies of SD from the Middle East are not available so the aim of this study was to define the incidence, demographic features, clinical patterns, associated conditions and influencing environmental factors of SD in our patient population.

PATIENTS AND METHODS

This epidemiological study of SD at King Fahad hospital of the University, KFHU,

Dammam, Saudi Arabia was composed of two parts.

Part I: All new patients diagnosed as SD at the dermatology department, KFHU (a tertiary care referral hospital) over a period of three years (January 1990-December) were retrospectively analysed. Using a prepared format, the data collected included demographic features, clinical findings, associated conditions, patient management and follow up. Patients were excluded if they did not fulfill the criteria for the diagnosis for SD or if they had attended the clinic before the period of study or if there was insufficient documentation in the case files.

Part II: All new patients aged more than 12 years, referred to the same department over a period of four months (July-October 1993) were prospectively studied. Each patient answered a detailed questionnaire which included personal, demographic data, details of suspected precipitating factors, family history and associated diseases.

The study was approved by the Research and Ethical committee of King Fahad hospital of the University. Data were entered into a computer data base and analyzed using microsoft Excel.

RESULTS

The total number of the new dermatological cases referred to the clinic during the three year period of this study was 5641. Of these, 330 patients had SD. The incidence of SD was 5.9%. There were 179 (54.2%) Saudis and 151 (45.8%) non-Saudis. There were 208 (63.0%) adults (>12 years), 99 (30%) infants (0-12 months) and 23 (7%) children (>one year - 12 years).

In adults, the male to female ratio was almost

Correspondence

Iqbal A. Bukhari, MD

Consultant Dermatologist, King Fahad Hospital of the University,

P.O. Box 40189, Al-Khobar 31952

Kingdom of Saudi Arabia, Fax: 38949209

E-mail: Manafa_IB@compuserve.com

equal (1.06:1), and the peak incidence of SD was during the fourth decade. The distribution of SD is shown in table 1. The commonest sites involved were the scalp (70.2%) and then the face (37.5%). There was no difference in the distribution of SD between the sexes. Multiple sites were affected in 52%. The types of lesions of SD in adults were dry loose scaling in 165 (79.3%) or adherent scales covering erythematous patches in 40 (19.2%). The follicular, petaloid and pityriasiform types of SD were rarely seen (one case for each type) and were evident only in adults (Plate 1). In 80 (38.5%) adults SD was associated with other conditions listed in table 2. Acne vulgaris and diffuse hair loss were the commonest cutaneous associations, while diabetes mellitus and obesity were the main systemic associations. In 18 patients (22.5%) more than one associated condition was found. The most common forms of treatment prescribed in 100 patients followed up were topical steroids in 77 (77%) with generally good response in either clearance or improvement of SD in the following months. The rest of patients, 23 adults (23%) received other medicated shampoos and creams including Selenium Sulfide, Salicylic acid, Sulfur, Ketoconazole, and Tar. They showed variable responses to therapy.

While 108 (51.9%) patients were seen only once and did not come for follow up visits.

The maximal numbers of SD patients were seen during the winter months and the least numbers occurred during the summer months. On the average more adult Saudi females were seen during summer months compared to adult Saudi males and non-Saudi adult patients.

In infants, there were 48 males and 51 females with male to female ratio of 1:1.06.

The peak incidence of SD was the second month of life. The scalp was the commonest site involved (71.7%). The face, flexures, neck, axillae and groins were more involved in infants than adults. There was no sex difference in the distribution of SD. Multiple sites were affected in 56%. The types of lesions of SD were mainly thick yellowish adherent scales and crusts in 60 (60.6%), or with erythematous patches in 39 (39.4%).

In children, the peak incidence was the fourth year of life. The commonest sites were the scalp 14 (60.9%) and the face 8 (34.8%). Lesions were mainly scaly without erythema in 20 (87%) patients. In both groups of patients (infants and children) no associated conditions were observed. The most common forms of treatment prescribed in 45 infants followed up were topical steroids in 38 (84.4%). The response of these patients to topical steroids was generally good resulting in either clearance or im-



Plate 1 : Pityriasiform type of seborrheic dermatitis

provement of SD in the following months. The rest of patients, 7 infants (15.6%) received other medicated shampoos and creams including Selenium Sulfide and Tar.

They showed variable responses to therapy. Among infants, 54 (54.5%) were seen only once and had no follow up visits.

Results of a detailed questionnaire of the possible contributory factors for SD in 50 patients who were studied prospectively; 30 (60%) were Saudis with 14 (47%) males and 16 (53%) females and 20 (40%) were non-Saudis; 11 (55%) males and 9 (45%) females. Of possible aggravating factors of SD, environmental factors were mentioned by 29 patients (Figure 2), psychological stress by 7, physical stress by 5 and none was mentioned by 9 patients.

DISCUSSION

This retrospective study reviews the clinical data of patients with SD seen in the dermatology clinic at a tertiary care hospital over a period of three years. Our preliminary hospital based data suggest that SD was not uncommon. It constituted 5.9% of all cases seen in the dermatology clinic. Our observed annual incidence of 5.9% was more than the 2.4% reported by Ratzler⁽⁷⁾ in a similar hospital based study but lower than the observation of 7% of Rebora and Rongioletti in Genoa⁽⁸⁾. In USA, the incidence of SD in the general population has been estimated to be 2.8%⁽⁹⁾.

As observed in other studies, SD in our patients affected mainly adults (63%) and infants (30%) and the peak incidence was similar to those found in large surveys of the general population^(1,10). Although there was no sexual predilection in our patients, similar hospital based studies have not shown consis-

tent predominance of a particular sex⁽⁹⁾. While more male predominance was observed by Ratzler⁽⁷⁾ and Bergbrant⁽¹¹⁾, female predominance was observed by others⁽⁹⁾. The predominance of Saudi patients in this study is unlikely to be due to racial predilection but may reflect the population structure in the eastern province where about 70% are Saudi nationals⁽¹²⁾. In the distribution of lesions, the scalp and face were the most affected sites in all agegroups; however, flexural involvement was more characteristic and commoner in infants than adults. A relationship between infantile and adult types of SD has not been established and there is no convincing evidence that infantile and adult SD are analogous⁽¹⁾.

Scaling is the hallmark of lesions of SD and the characteristics scales are greasy, yellowish and adherent type. In the scalp of adults the commonest type of scaling was dry and without erythema (dandruff); however, in infant scalps, the scales were often thick, adherent and greasy (Cradle cap). Scaly erythematous patches were the predominant lesions in the face and trunk of adults and infants alike; however, in the flexural and intertriginous areas the erythematous patches tended to be moist, macerated and associated with secondary bacterial, candidal or fungal infection and these are typical of the documented features of SD^(1,13). Seborrhoeic dermatitis of children was rare and presented mainly as dry scaling of the scalp or as crusting and fissuring behind the ears. This is consistent with the scanty literature of SD in this age group. Future studies will be needed to further evaluate the type and patterns of SD in children. The petaloid, pityriasiform and follicular morphological variants of SD are rare⁽¹⁾ and our finding of only one case from each of these in adults is consistent with this contention. Occasionally, SD may become severe, extensive or generalized erythrodermic with or without exfoliation^(1,10). In our material, only one patient had generalized erythrodermic complication and was provoked by medicaments.

Many aetiological factors and associated conditions have been linked and suggested to play a role in the pathogenesis of SD. In 39% of adults in this study, SD was associated with acne vulgaris, diffuse hair loss, diabetes and obesity. These conditions have also been reported to be associated with SD in other studies^(1,13). The exact relationship of these conditions to SD is unknown and remains to be elucidated.

Environmental factors and stress are well known to influence SD and our observations are consistent with similar findings from previous studies^(2,11,13). The seasonal and monthly variations in the incidence of SD observed in this study are similar to those reported by Bergbrant⁽¹¹⁾. It is conceivable

that the aetiological factors believed to play a major role in the pathogenesis of SD, such as infection, immunity, seborrhoea, can also be influenced by environmental factors mainly. Solar radiation does not seem to play a major role in the aetiology of SD. Saudi women who normally wear veils and are thus protected from the sun's rays were more affected than Saudi males or other non-Saudi females (who are normally not veiled) in the summer when the solar radiation is at its highest (Figure 1). Ambient temperature changes may play a role in the aetiology of SD as it was mentioned by a majority of our patients in the prospective study as a contributing factor. But high temperature per se does not seem to contribute much to the aggravation of SD because the monthly incidence is not highest during summer months when the temperature ranges between 35-47 degrees celsius. Further studies need to be carried out to assess the role of environment factors in SD in this environment.

SD is usually controlled with simple topical regimens, but recurrences are common. And there is no permanent cure⁽¹⁾. Most of our patients received either topical steroids or medicated shampoos and were managed satisfactorily with these medications. It is interesting to note that 52% of our adult patients and 55% of infants were not seen after their first visit and had no further recorded follow up.

The exact reasons for this poor follow up are uncertain but not uncommon in this environment. It might however be speculated that these patients had been cured, improved or at least their condition did not worsen to warrant their compliance with future visits.

CONCLUSION

SD was not uncommon in dermatological practice in the eastern province of Saudi Arabia and was more frequently seen in winter. The infantile and adult types occurred but there was no sexual predilection. In both types, the distribution favored areas rich in sebaceous glands; however in infants flexural involvement was much more common than in adults. Acne vulgaris, diffuse hair loss, diabetes mellitus and obesity appeared to be the most common associations. Environmental temperature changes seem to be a more contributory factor to SD than sun radiation. Further prospective studies need to be carried out to elucidate the aetiological factors in this desert environment.

Acknowledgement :

I wish to acknowledge with thanks, Dr. Emmanuel B. Larbi, Professor and Consultant Internist for critical review of the manuscript.

Table 1: Distribution of Seborrhoeic Dermatitis in different age groups.

Age	Site Scalp	Face	Postauricular	Flexures	Upper & lower limbs	Trunk
0-1 year	71.7% *(71)	55.6% (55)	30.3% (30)	63.6% (63)	13.1% (13)	17.1% (17)
>1-12 yrs	60.9% (14)	34.8% (8)	17.2% (4)	13.0% (3)	—	—
>12yrs	70.2% (146)	37.5% (78)	2.6% (47)	12.5% (26)	3.8% (8)	24.5% (51)
Total	70% (231)	47% (141)	27% (81)	31% (92)	7% (21)	23% (68)

*The number of patients is shown between brackets.

Table 2: Conditions associated with seborrhoeic dermatitis in 80 adult patients

	Associated condition	Number of patients (%)
Cutaneous:	Acne vulgaris	33 (41%)
	Hair fall	31 (38.8%)
	Tinea versicolor	5 (6.3%)
	Seborrhoea	5 (6.3%)
	Rosacea	1 (1.3%)
Non-cutaneous	Diabetes Mellitus	12 (15%)
	Obesity	10 (12.5%)
	Depression	8 (10%)
	Myocardial Ischemia	2 (2.5%)
	Epilepsy	1 (1.3%)

REFERENCES

- Burton JL, Rook A, Wilkinson DS: Seborrhoeic dermatitis, infantile seborrhoeic dermatitis. In Rook A, Wilkinson DS, Ebling FJG: Textbook of dermatology, pp 545-551, pp 403-406. Victoria, Australia: Blackwell Scientific Publications, 1992.
- Clark RA, Hopkins TT: The other Eczemas. In Moshella SL, Harley HJ: Dermatology, 3rd ed, pp 465-501. Philadelphia: WB Saunders Co, 1992.
- Shuster S: The aetiology of dandruff and the mode of action of therapeutic agents. Br J dermatol 1984;111:235-242.
- Heng MC, Henderson CL, Baker DC et al. Correlation of Pityrosporum ovale density with clinical severity of seborrhoeic dermatitis as assessed by simplified technique. J Am Acad Dermatol 1990;23:82-86.
- Vanderwyk RW, Hechemy KE A comparison of the bacterial and yeast flora of the human scalp and their effects upon dandruff production. Journal of the society of Cosmetic Chemists 1967;18:629-639.
- Belew PW, Rosenberg EW, Jennings BR. Activation of alternative Pathway of complement by Malassezia ovalis (Pityrosporum ovale). Mycopathologia 1980;70:187-191.
- Ratzer M. The incidence of skin disease in the west of Scotland. Br J Dermatol 1969;81:456-461.
- Rebora-A, Rongioletti F. The Red Face: seborrhoeic dermatitis. CI Dermatol 1993;11 (2),243-251.
- Johnson M-LT, Roberts J. Prevalence of dermatological diseases among persons 1-74 years of age. United States Publication No. (PHS) 79-1660, Washington DC: U.S. Department of Health and Human Services, 1977.
- Plewig G: Seborrhoeic dermatitis. In Fitzpatrick TB, Eisen AZ, Wolf K, Freedberg IM, Austen KF: Dermatology in General Medicine, 4th ed, pp 1569-1574. New York: McGraw Hill, 1993.
- Bergbrant IM. Seborrhoeic dermatitis and Pityrosporum ovale: cultural, immunological and clinical studies. Acta Derm Venereol (Stokh);1991; Suppl 167;1-36.
- Ministry of Interior, Kingdom of Saudi Arabia. Statistical Book No 12 1986.
- Arnold HL, Odom RB, James WD: Seborrhoeic Dermatitis, Psoriasis, Racalitrant Palmoplantar Eruption, and Erythroderma. In Andrew's Diseases of the skin: Clinical Dermatology, 8th ed, pp 194-198. Philadelphia: WB Saunder's Co., 1990.