

Becker nevi among patients in Aden, Yemen

Asia Hassan Abdulla Saleh (1)

Amer Omer Bin Al-Zou (1)

Lina Ali Muthanna (2)

(1) Department of Dermatology, Faculty of Medicine, University of Aden, Yemen

(2) Section of Dermatology, Algamhoria Teaching Hospital, Aden, Yemen

Correspondence:

Dr. Amer Omer Bin Al-Zou

Associate Professor, Dermatology,

Faculty of Medicine, University of Aden, Yemen.

Mobile: +967 736 361 344

Email: amer_zou2009@yahoo.com

Received: November 2020; Accepted: December 2020; Published: January 1, 2021.

Citation: Asia Hassan Abdulla Saleh, Amer Omer Bin Al-Zou, Lina Ali Muthanna. Becker nevi among patients in Aden, Yemen. World Family Medicine. 2020; 19(1): 104-109 DOI: 10.5742/MEWFM.2021.93955

Abstract

Background: Becker nevus typically presents as a hyperpigmented patch with irregular borders that gradually enlarges for a few years and then remains stable.

Objective: The objective of the study is to determine the occurrence of Becker nevus among Yemeni patients and to define its clinical characteristics.

Materials and method: This was a retrospective study of all patients with Becker nevus seen at two private clinics in Aden over a two years period, from January 2017 to December 2018.

Results: During the study period, 84 patients were diagnosed with Becker nevus in our private clinic. The female to male ratio was 2:1 (F= 66.7% vs. M= 33.3%). The mean age was 17.7 years (standard deviation = 3.9) (range: 10–25 years).

Most of the patients were from urban areas (92.9%). The most commonly involved site was the shoulder (32.1%), followed by chest (16.7%), arm (11.9%) and back (11.9%). Hypertrichosis was found in 32.1% of patients. Breast hypoplasia was noted in 2 patients (2.4%).

We concluded that Becker nevus is a common condition among Yemeni patients in our series of 84 patients. Females were more commonly affected. The most common sites of involvement were the shoulders and chest. About a third of patients had associated hypertrichosis whereas breast hypoplasia was less frequent.

Key words: Occurrence, Becker nevus, clinical characteristics

Introduction

Becker nevus (BN), also called Becker melanosis and Becker pigmentary hamartoma, was first described in 1949 by William Becker, who reported the presence of unilateral hyperchromic skin lesions with hair in two young male patients [1]. It typically presents as a hyperpigmented patch with irregular borders that gradually enlarges for few years and then remains stable [1].

Becker nevus commonly manifests in the peripubertal age as a unilateral, solitary, acquired localized hyperpigmented patch composed of coalescing brownish macules. Hyperpigmentation usually increases for the first 2-3 years while hypertrichosis can appear after the pigmentation. However, the non-hypertrichotic variant is more common. "Progressive cribriform and zosteriform hyperpigmentation" may represent the non-hypertrichotic variant of Becker nevus. Although typically a unilateral condition, a few documented cases have been reported with multiple symmetrical and multiple unilateral Becker nevi [2,3,4].

Onset of Becker nevi is usually around puberty, with a prevalence of 0.25% to 0.5% in adolescent boys and young men [5,6,7]. The condition is rarely congenital, and the male-to-female ratio is approximately 5 to 1 [5,8].

Becker nevi occur in all races but are more common in nonwhites than whites [6]. The majority of cases are sporadic, but familial cases have also been reported [9,10].

We have not found in the published articles evidence of studies conducted in Yemen on this health problem. The aim of this study is to determine the occurrence of Becker nevus among Yemeni patients and to define its clinical characteristics.

Materials and Method

A retrospective study was done of all patients who suffer from Becker nevus and who were seen in our private clinic in Al-Mansoura, Aden over a two-years-period, from January 2017 to December 2018. The patients' files were reviewed to obtain information about sex, age, residency, location of nevus, size of nevus, hypertrichosis and associated features.

The data was entered into a computer and analyzed using SPSS version 17, statistical package. For variables difference, chi-square tests, and P values were calculated

Results

During the study period, 84 patients were diagnosed with Becker nevus skin disease in our private clinic. They were 56 females (66.7%) and 28 males (33.3%) with a female to male ratio 2:1 (Table 1).

The 84 patients had a mean age of 17.7 (standard deviation = 3.9) (range: 10–25 years). The mean age of male patients was 18.8 ± 3.7 years (range: 12 – 25 years) and the mean age of female patients was 17.2 ± 3.9 years (range 10 – 25 years).

There was no statistical relation between mean values ($p > 0.05$). Most of the patients ($n= 78$; 92.9%) were from urban areas.

The most commonly involved site was the shoulder ($n= 27$; 32.1%), followed by chest ($n=14$; 16.7%), arm and back at equal involvement ($n=10$; 11.9%), abdomen and scapula at equal involvement ($n=6$; 7.1%), thigh ($n= 5$; 6.0%), face ($n=4$; 4.8%), and shoulder with scapula ($n=2$; 2.4%) (Table 2). Hypertrichosis was found in only 27 cases (32.1%) distributed as follows: 17 (20.2%) in males and 10 (11.9%) in females. Ipsilateral breast hypoplasia was noted in 2 cases (2.4%). Nevus size ranged between 6 to 40 cm and mean size was $14.7 \pm SD 6.4$ cm.

Discussion

In the present study 84 patients diagnosed with Becker nevus were identified with a female to male ratio 2:1. Literature search showed variations in the incidence between females and males. Some studies have reported that males are 4-6 times more commonly affected [11,12,13].

On the contrary, a published study by Danarti et al [14] reported that it is more common in females (F : M ratio = 1.5:1).

The variations can be explained by absence of hypertrichosis and easily noticeable breast hypoplasia in females [14,15,16].

In the current study the 84 patients had a mean age of 17.7 ± 3.9 years (range: 10–25 years). The mean age of male patients was 18.8 ± 3.7 years (range: 12 – 25 years) and the mean age of female patients was 17.2 ± 3.9 years (range 10 – 25 years). There was no statistical relation between mean values ($p > 0.05$).

Rasi et al [17] reported in their study that the 47 Becker nevus patients had a mean age of 17.1 years (range: 12–42 years). The mean age of male patients was 17 years (range: 12–42 years) and the mean age of female patients was 22.85 years (range: 15–29 years). Our results were consistent with these results.

Table 1: Demographic characteristics of the study patients (n=84)

Variables	Ratio	Means \pm SD	No	%		
Sex:	2 : 1					
Females					56	66.7
Males					28	33.3
<i>Ratio female : male</i>						
Age group (years):					30	35.7
10 – 15					34	40.5
16 – 20					20	23.8
21 – 25						
Age range (years):						
Total mean age \pm SD					17.7 \pm 3.9	
Male mean age \pm SD	18.8 \pm 3.7					
Age range (years)	12 – 25					
Female mean age \pm SD	17.2 \pm 3.9					
Age range (years)	10 - 25					
P-value	> 0.05					
Residency:						
Urban			78	92.9		
Rural			6	7.1		

SD = Standard Deviation

Table 2: Distribution of affected body site by BN among the study patients

Localization	No	%
Body site:		
Shoulder	27	32.1
Chest	14	16.7
Arm	10	11.9
Back	10	11.9
Abdomen	6	7.1
Scapula	6	7.1
Thigh	5	6.0
Face	4	4.8
Shoulder & scapula	2	2.4
Hypertrichosis:		
Exist:		
Males	17	20.2
Females	10	11.9
Not Exist:	57	67.9
Associated features:		
Left breast hypoplasia	1	1.2
Right breast hypoplasia	1	1.2
No	82	97.6
Nevus size (cm):		
Range	6 – 40 cm	
Mean \pm standard deviation	14.7 \pm 6.4 cm	

Figure 1: Some Becker nevi with their localization:

- a) Scapula classic site of Becker nevus in young female
- b) Right side of chest extending to shoulder
- c) Left arm extending to chest with hypertrichosis
- d) Lower face extending to neck
- e) Buttock with left thigh associated with hypertrichosis



a



b



c



d



e

In our study result (n= 78; 92.9%) were from urban areas. We do not expect the incidence to be lower in rural areas but we assume that most patients were from urban sites because the healthcare service is more accessible and the data was only from two private clinics

In the present study we found the most commonly involved site was the shoulder (32.1%), followed by chest (16.7%), arm (11.9%) & back (11.9%), abdomen and scapula each one with (7.1%), thigh (6.0%), face (4.8%), and shoulder with scapula (2.4%).

Kumar et al [18] reported in their study that the usual site of Becker nevi is described as shoulder, anterior chest, or scapular region; it can occur over unusual sites such as face, neck, abdomen, and thighs. Reports of it occurring over legs are very few. Kumar et al [18] added Becker's nevi presents as a unilateral irregular area of hyperpigmentation with geographic contour which usually occurs over shoulder and anterior chest.

There are various reports of Becker's nevus occurring over atypical sites such as face, neck, and limbs [18].

In a case series, Becker nevus was reported to occur at various atypical sites such as flank, pubic area, right arm, upper leg [19]. Becker nevus rarely occurs in the lower limb. In a Jordanian survey done among males, they reported a prevalence of 6.5% of which only 1.1% of males showed localization of Becker's nevus over legs [20]. Manoj et al [21] reported a male patient with Becker's nevus occurring over knee joint. Turan et al [22] reported it occurring on ankle in a male patient.

In the current study we observed hypertrichosis was found in only 27(32.1%) of the 84 patients. The hypertrichosis typically develops after the hyperpigmentation and the hairs become progressively coarse with time. Some recent studies have suggested that hypertrichosis may not be associated with a majority of the cases of BM [5,12,23,24].

Tawran et al [20] reported in their study in Jordan that significant hypertrichosis was observed in 284 patients (75.4%), which is a high incidence compared to our study.

Hypertrichosis with terminal hairs was observed on the BN of 70% of young Italian men [25] and in 56% of young French males [26] but only in 23.1% of Brazilian teenager males [6]. In a very recent study of BN in children, hypertrichosis was seen in 31.3% of 118 patients; the majority of patients with hairless BN were younger than 10 and more than 50% had mild hypertrichosis which was located only on the center of the lesions [27].

Also we found 1(1.2%) as left breast hypoplasia and 1(1.2%) of right breast hypoplasia. Previous studies reported that hypoplasia may involve the entire breast or only the nipple and areola. In female patients, this is the most frequently reported anomaly to be associated with

Becker nevus [28,29]. Rasi et al [17] mentioned that in their study they found only 2 (2.4%) female patients had ipsilateral breast hypoplasia.

Conclusion

It was difficult to obtain published studies on Becker nevi from Yemen. Therefore, this study can be considered as the first work which reported on this health problem in Yemen. Most of the patients were from urban areas (92.9%) and the most commonly involved site was the shoulder (32.1%), followed by chest (16.7%), arm (11.9%) & back (11.9%). Hypertrichosis was found in (32.1%) of the patients. Further studies on the incidence, prevalence and treatment procedures for Becker nevi are needed.

References

1. Becker SW. Concurrent melanosis and hypertrichosis in distribution of nevus unius lateris. *Arch Dermatol Syph.* 1949; 60: 155 - 160.
2. Bansal R, Sen R. Bilateral Becker nevi. *Indian J Dermatol Venereol Leprol.* 2008; 74(1): 73
3. Pahwa P, Sethuraman G. Segmental Becker nevi with mucosal involvement. *Pediatr Dermatol.* 2012; 29: 670-671.
4. Chung HM, Chang YT, Chen CL, Wang WJ, Wong CK. Becker melanosis associated with ipsilateral lower limb hyperplasia and pectus excavatum: A case-report and review of the literature. *Dermatol Sinica.* 2002; 20: 27-32.
5. Dasegowda SB, Basavaraj GB, Nischal KC, et al. Becker nevus syndrome. *Indian J Dermatol.* 2014; 59(4):421.
6. de Almeida HL Jr, Duquia RP, Souza PR, et al. Prevalence and characteristics of Becker nevus in Brazilian 18-year-old males. *Int J Dermatol.* 2010; 49(6):718-720.
7. Sharma M, Kansal NK, Gautam RK. A case of Becker's nevus with pityriasis versicolor. *J Eur Acad Dermatol Venereol.* 2014; 28:1827-1836.
8. Grim KD, Wasko CA. Symmetrical bilateral Becker melanosis: a rare presentation. *Dermatol Online J.* 2009; 15(12):1.
9. Book SE, Glass AT, Lauda TA. Congenital Becker's nevus with a familial association. *Pediatr Dermatol.* 1997; 14:373-375.
10. Khatami A, Seradj MH, Gorouhi F, et al. Giant bilateral Becker nevus: a rare presentation. *Pediatr Dermatol.* 2008; 25:47-51.
11. Sylvia H, Joy YC, Paul S. Becker's melanosis in a woman. *J Am Acad Dermatol.* 2001; 45: S195-196.
12. Momen S, Mallipeddi R, Al-Niaimi F. The use of lasers in Becker's naevus: An evidence-based review. *J Cosmet Laser Ther.* 2016; 18(4): 188-92.
13. Sheng P, Cheng YL, Cai CC, Guo WJ, Zhou Y, Shi G, et al. Clinicopathological Features and Immunohistochemical Alterations of Keratinocyte Proliferation, Melanocyte Density, Smooth Muscle Hyperplasia and Nerve Fiber Distribution in Becker Nevus. *Ann Dermatol.* 2016; 28(6): 697-703.
14. Danarti R, König A, Salhi A, Bittar M, Happle R. Becker nevus syndrome revisited. *J Am Acad Dermatol.* 2004; 51: 965-969.

15. Eiras CF, Solano MN, Alice BG, et al. Becker nevus syndrome. *An Bras Dermatol.* 2010; 85(3): 380-384.
16. Hsu S, Chen JY, Subrt P. Becker's melanosis in a woman. *J Am Acad Dermatol.* 2001; 45(suppl): S195-S196.
17. Rasi A, Ardestani HB, Tabaie SM. Hypertrichosis Is Not so Prevalent in Becker Nevus: Analysis of 47 Cases. *ISRN Dermatology.* 2014; 1-4
18. Kumar GR, Karthikeyan K, Sengottian KL, et al. A typical Becker's nevus at an atypical site in a female child. 2014; 15(3): 125-6
19. Alfadley A, Hainau B, Al Robaee A, Banka N. Becker melanosis: A report of 12 cases with atypical presentation. *Int J Dermatol.* 2005; 44:20-4
20. Tawara MJ, Ayman S, Qa'qaa AS. Prevalence and clinical characteristics of Becker's Nevi in young Jordanian males. *J R Med Serv.* 2013; 20:57-62
21. Manoj J, Kaliyadan F, Hiran KR. Atypical presentation of Becker's melanosis. *Indian Dermatol Online J.* 2011; 2:42-3
22. Turan H, Uslu E, Gun E. A below-knee Becker nevus: An unusual presentation. *Abant Med J.* 2013; 2: 68-9
23. Kim YJ, Han JH, Kang HY, Lee ES, Kim YC. Androgen receptor overexpression in Becker nevus: histopathologic and immunohistochemical analysis. *J. Cutan. Pathol.* 2008; 35(12): 1121-6.
24. Cai ED, Sun BK, Chiang A, Rogers A, Bernet L, Cheng B, et al. Postzygotic Mutations in Beta-Actin Are Associated with Becker's Nevus and Becker's Nevus Syndrome. *J. Invest. Dermatol.* 2017; 137(8): 1795-1798.
25. Ingordo V, Gentile C, Iannazzone SS, et al. The 'EpiEnlist' project: a dermo-epidemiologic study on a representative sample of young Italian males. Prevalence of selected pigmentary lesions. *J Eur Acad Dermatol Venereol.* 2007; 21: 1091–1096.
26. Tymen R, Forestier JF, Boutel B, Colomb D. Nevus tardif de Becker: a propos d'une se´rie de 100 observations. *Ann Dermatol Venereol.* 1981; 108: 41-46.
27. Patrizi A, Medri M, Raone B, et al. Clinical characteristics of Becker's nevus in children: report of 118 cases from Italy. *Pediatric Dermatology.* 2012; 29(5): 571-574.
28. Santos-Juanes J, Galache C, Curto JR, Carrasco MP, Ribas A, et al. Acneiform lesions in Becker's nevus and breast hypoplasia," *International Journal of Dermatology.* 2002; 41(10): 699–700.
29. Formigon M, Alsina MM, Mascaro JM, Rivera F. Becker nevus and ipsilateral breast hypoplasia androgen receptor study in two patients. *Archives of Dermatology.* 1992; 128(7): 992–993.