

## Editorial

# Blaschkolinear dermatosis: A fascinating dermatological pattern

Arfan ul Bari

Pak Field Hospital, UNAMSIL, (United nation mission in Sierraleone).

Dermatology is a unique fascinating field of medicine possessed with a plentiful of attractive and interesting acronyms, eponyms and abbreviations; and dermatologists are luckier than many physicians as they can constantly see and touch the disease.

Different morphological patterns have been described in literature, which are exhibited by a variety of dermatological disorders. Blaschkoid pattern is one of these fascinating morphologies assumed by many naevoid and acquired skin diseases on the human skin and mucosae. This pattern is distinguished in form of different lines and bands on body surface. These are V-shape lines over the upper spine, S-shape on the abdomen, inverted U-shape from the breast area onto the upper arm and perpendicular lines down the front and back of the lower extremities<sup>1,2</sup> (**Figure 1**). These lines are called “Lines of Blaschko” or “cutaneous lines of embryogenesis” and were first described by a German dermatologist, Alfred Blaschko<sup>3</sup> in 1901, on the occasion of the 7th Congress of the German Dermatological Society, held in Breslau. He observed certain interesting patterns in his

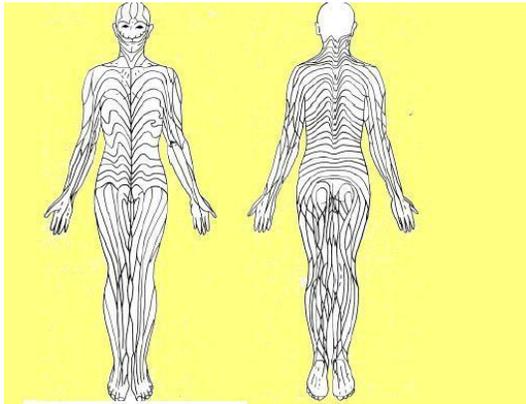
patients exhibited by various nevoid and acquired linear skin diseases and carefully transposed these patterns onto dolls and statues. The lines thus obtained were schematically transferred to the back and front view of the human body and subsequently a composite diagram of these distribution patterns was drawn. It was later known that these lines do not correspond to any known nervous, vascular or lymphatic structures but represent the developmental growth pattern of the skin. The epidermis and its appendageal structures such as melanocytes, vascular system, fatty hypoderm, all, separately or in combination, may be involved in the morphological manifestations which follow the Blaschko's lines. These lines were thought to represent a clinical expression of a genetically programmed clone of altered cells, perhaps first expressed during embryogenesis. This concept greatly relies on the hypothesis that disorders following Blaschko's lines are caused by genetic mosaicism.<sup>4,5</sup> This mosaicism manifesting along Blaschko's lines may result from lyonization (random inactivation of one of the two X chromosomes in women) or somatic postzygotic mosaicism. Authentic genetic mosaicism has been proved only in cases of Blaschkolinear nevoid or X-linked diseases

---

### Address for correspondence

Major Dr. Arfan ul Bari,  
Consultant Dermatologist,  
Pak Field Hospital, Sierraleone.  
Email albariul@yahoo.com

and it is still less obvious in acquired inflammatory diseases along the lines of



**Figure 1** Lines of Blaschko on front and back of the body.



**Figure 2** Narrow band pattern of lines of Blaschko.



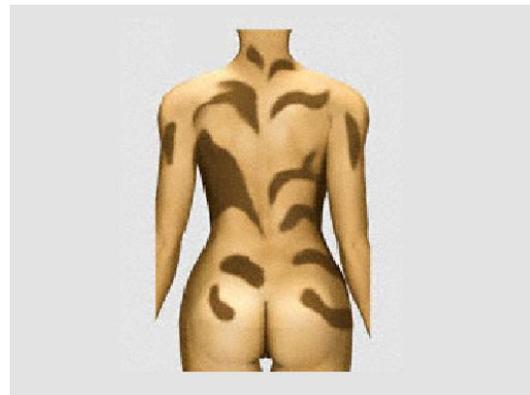
**Figure 3** Broad band pattern of lines of Blaschko

Blaschko. The latter include, among others, such different diseases as lichen striatus, lichen planus, psoriasis, and lupus erythematosus.<sup>6-8</sup> Blaschko's lines have been most commonly confused with dermatomes

as both the distribution patterns are characterized by a striking demarcation of



**Figure 4** Checkerboard pattern of lines of Blaschko.



**Figure 5** Phylloid pattern of lines of Blaschko.

cutaneous lesions at the midline but on close comparison the two do not seem similar.<sup>2,6</sup>

Since the original description by Blaschko, a century ago, the concept of this patterned lines has been potentiated greatly by Jackson,<sup>1</sup> Happle<sup>4</sup> and Bologna<sup>2</sup> and further lines have been delineated on the posterior scalp and the lateral aspect of the face and neck, thus completing the whole body surface map. The anatomic equivalent of Blaschko's lines has been described in the teeth and eyes as well.<sup>6</sup>

A large number of congenital and acquired dermatological conditions are known to follow the lines of Blaschko. These may be

grouped as genodermatoses, congenital and/or nevoid conditions and acquired conditions. In these disorders, contiguous lines and bands may exhibit one of the following different surface morphology like narrow band, large band, checkerboard and phylloidal appearance (**Figures 2-5**).

The spectrum is continuously expanding and newer diseases (eosinophilic cellulites, linear scleroderma and erythematous exanthem of scarlet fever) have recently been included in this category. Few cases of unique self limiting inflammatory skin condition, called blaschkitis have been reported in recent past, corresponding to the established lines of Blaschko and are categorized as acquired Blaschkolinear dermatoses.<sup>6,9,10</sup>

#### References

1. Jackson R. The lines of Blaschko: a review and reconsideration: Observations of the cause of certain unusual linear conditions of the skin. *Br J Dermatol* 1976; **95**: 349-60.
2. Bologna JL, Orlow SJ, Glick SA. Lines of Blaschko. *J Am Acad Dermatol* 1994; **31**: 157-90.
3. Blaschko A. *Die Nervenverteilung in der Haut in ihrer Beziehung zu den Erkrankungen der Haut.* Vienna, Austria: Wilhelm Braunnmuller; 1901.
4. Happle R. Mosaicism in human skin. Understanding the patterns and mechanisms. *Arch Dermatol* 1993. **129**: 1460-70.
5. Happle R. Patterns on the skin. New aspects of their embryologic and genetic causes. *Hautarzt* 2004; **55**: 960-1, 964-8.
6. Tagra S, Talwar AK, Walia RS. Lines of Blaschko. *Indian J Dermatol Venereol Leprol* 2005; **71**: 57-9.
7. Bari AU, Rahman SB. Naevoid psoriasis: An uncommon blaschkolinear dermatosis. *J Pak Assoc Dermatol* 2004; **14**: 156-9.
8. Bari AU, Rahman SB. Zosteriform lichen planus. *J Coll Physicians Surg Pak* 2003; **13**: 104-5.
9. Grosshans E, Marot L. Blaschkitis in adults. *Ann Dermatol Venereol* 1990; **117**: 9-15.
10. Bari AU, Rahman SB. Zosteriform lichen planus: A new variant of a common disorder. *J Pak Assoc Dermatol* 2004; **14**: 5-9.

### **JPAD Correspondence Address**

**Dr. Ijaz Hussain, Editor,**

**Department of Dermatology, Unit I,**

**Mayo Hospital, Lahore**

**E mail: dr\_ijazhussain@yahoo.com, dr\_ijazhussain@jpad.org.pk**