

CASE REPORT

Bier's Spots: A case report

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ABSTRACT

Bier's spots represent a distinct pattern of vascular mottling, wherein, the intervening skin seems erythematous but blanches on applying pressure so that the hypopigmented macules disappear. These are characteristically transient, small pale macules with an irregular border usually located on arms and legs of young adults, but may also occur on trunk. These are regarded as an exaggerated physiologic, vasoconstrictive response and are induced by hypoxia associated with venous stasis or, conversely, by a failure of the venoarteriolar reflex in dermal ascending arterioles in response to venous filling.

We are presenting this case to increase the awareness of this condition, because the phenomenon can resemble pigment changes.

INTRODUCTION

Bier spots were first described in 1898. They have also been called physiologic anaemic macules, angiospastic macules and exaggerated physiologic mottling of the skin. These spots are small, irregular, apparently hypopigmented macules that are usually found on the arms and legs of young adults,¹ but may also occur on the trunk.² It is usually seen in people 20 to 40 years old and is more common in women. The prevalence of this disorder is uncertain.³ Bier's spots usually affect otherwise healthy individuals. However, sometimes they are due to increase in blood viscosity in systemic disease such as cryoglobulinaemia or polycythaemia. They have also been reported in pregnancy. There has been a report of Bier spots in a patient with scleroderma renal crisis. They represent a distinct pattern of vascular mottling, in which the intervening skin may seem erythematous but blanches with pressure so that the

hypopigmented macules disappear. The hypopigmented macules can be elicited by placing an affected limb in the dependent position. When the limb is raised, the macules disappear. They may resemble pale patches sometimes seen in pityriasis versicolor, naevus depigmentosus (achromic naevus), postinflammatory hypopigmentation, vitiligo or nevus anaemicus.

CASE REPORT

Our patient is twenty five years old male who presented with multiple irregular asymptomatic white macules scattered over both upper limbs (Fig. 1, 2). The intervening skin was mildly erythematous. The lesions disappeared on blanching the surrounding skin, or on elevation of the arms. The patient had neither associated diseases, nor family history of similar lesions. Laboratory tests including blood count, blood chemistry, coagulation panel, antinuclear antibodies and cryoglobu-

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Fig. 1 Bier's spot on trunk and left upper extremity.



Fig. 2 Close up of the lesions on flexure aspect of left arm.

lins were normal or negative. A diagnosis of Bier's spots was made based on the clinical picture.

DISCUSSION

Bier's spots were first described in 1898. Additional studies were conducted by Rehberg and Carrier in 1922 and by Wolf in 1924. Wilkin and Martin in 1986 concluded that the difference in color is due to a capacitance phenomenon with venodilation in dark areas and venoconstriction in the pale areas.⁴ This reflects an exacerbated physiological vasoconstrictive response induced by venous stasis associated hypoxia or conversely a failure of the venoarteriolar reflex in dermal ascending arterioles in response to venous filling.⁵

Differential diagnosis of Bier's spots should include conditions with vascular abnormality like nevus anemicus, in addition to, conditions with hypopigmentation as post inflammatory hypopigmentation, nevus depigmentosus, pityriasis versicolor, idiopathic guttate hypomelanosis, progressive macular hypomelanosis and vitiligo.³

Bier's spots may be associated with conditions like palmar hyperhidrosis, insomnia, tachycardia, pregnancy, cryoglobulinemia, scleroderma renal crisis, aortic hypoplasia, varicosity, lichen planus, alopecia areata and Peutz-Jeghers syndrome. More often, Bier's spots are idiopathic and requires no treatment.³

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