Successful treatment of progressive macular hypomelanosis with narrowband UVB: A case report.

Marinya Pongpudpunth MD,

Premjit Vaiyavatjamai MD,

Ploysyne Rattanakaemakorn MD.

ABSTRACT :

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DIVISION OF DERMATOLOGY, DEPARTMENT OF MEDICINE, FACULTY OF MEDICINE RAMATHIBODI HOSPITAL, MAHIDOL UNIVERSITY, BANGKOK, THAILAND.

Progressive macular hypomelanosis is a rare dermatosis of uncertain etiology. Propionibactrium has been postulated as the causative agent. Narrowband ultraviolet B (NB-UVB) was shown to stimulate melanogenesis accompany with antibacterial effect. It has been reported as an effective therapeutic option. Here we report a case of a 39 years old woman with hypopigmented lesions on the back over 2 months and were diagnosed as PMH. The patient was initially treated as Tinea vesicolor and topical antifungal without any improvement. Therefore, she was treateded with NB-UVB phototherapy. After complete 18 sessions, with a total cumulative dose of 20500 mj/cm2, the patient shows almost total repigmentation of the lesions.

Key words: Progressive macular hypomelanosis, treatment, Narrowband ultraviolet

บทคัดย่อ :

มริญญา ผ่องผุดพันธ์, เปรมจิต ไวยาวัจมัย, พลอยทราย รัตนเขมากรณ์ รายงานผู้ป่วย PROGRESSIVE MACULAR HYPOMELANOSIS ที่ประสบความสำเร็จจาก การรักษาด้วยแสง NARROWBAND UVB วารสารโรคผิวหนัง 2555; 28: 283-286.

หน่วยโรคผิวหนัง ภาควิชาอายุรศาสตร์ คณะแพทยศาสตร์ โรงพยาบาลรามาธิบดี

Progressive macular hypomelanosis (PMH) เป็นโรคที่พบได้น้อย สาเหตุของโรคยังไม่ทราบแน่นอน มีการตั้งสมมติฐานว่าสาเหตุเกิดจาก Propionibactrium มีรายงานการใช้รังสี Narrowband ultraviolet B (NB-UVB) ว่าเป็นตัวเลือกที่มีประสิทธิภาพในการรักษา PMH เรารายงานผู้ป่วยหญิงอายุ 39 ปี ที่มีรอยด่างขาวบริเวณหลังมาเป็นเวลา 2 เดือน และได้รับการวินิจฉัยว่าเป็น PMH ก่อนหน้านี้ผู้ป่วยได้รับการรักษาขั้นต้นแบบโรคเกลื้อนโดยไม่มีการเปลี่ยนแปลง หลังจากนั้นจึงได้เริ่มการรักษาด้วยรังสี Narrowband ultraviolet B รวมทั้งหมด 18 ครั้ง เป็นแสงสะสมทั้งหมด 20500 mj/cm2 ผู้ป่วยตอบสนองต่อการรักษาดีมากโดยส่งผลให้มีการคืนกลับของเม็ดสีถึง 90 %

คำสำคัญ : โรคด่างขาวที่หลัง การรักษา ด้วยรังสีอัลตราไวโอเลตชนิด บี

Case report

A case of a 39 years old woman presenting with progressive hypopigmentation confined to the back for 2 months duration. She was initially treated as Tinea vesicolor without any improvement. The area of dispigmentation progressively appeared. Although It was asymptomatic but the appearance was bothering her.

Physical examination showed multiple ill-defined round hypopigmented patches which confluent into larger patches covering almost entire back. She had no known family history of similar problem. KOH study was negative. Wood's lamp examination revealed a red follicular fluorescence. The diagnosis of PMH was made. Therefore, she was treated with 1% topical clindamycin and 5% benzoyl peroxide, although after 2 months, the lesions remained stable. Subsequently, the patient was treated with narrowband UVB (NB-UVB) therapy 5 times/week, at an initial dose of 300 mj/cm2 five times per week, increment at 20% at each visit, until reaching the maximum dose of 1600 mj/cm2 (cumulative dose of 20500 m j/cm2). This was resulting in 90% resolution of the lesion. Furthermore, the lesional area was divided into 2 parts, upper and lower part, meladinine (1:50) was applied 15 minutes on upper portion. However, there is no significant change between area of meladinine and non-meladinine application. The first follow up was done at 10th session, patient and doctor's evaluation was resemblance, in that, after 10 sessions, the improvement was 50% and extending to 90% at 18 sessions accordingly. (figure 1-2)



Figure 1 Multiple confluent hypopigmented patches confined to the back



Figure 2 Resolution of the lesion with 18 narrow-band ultraviolet B session

Discussion

PMH is not a well-recognized entity in clinical practice, although several reports have been documented over the past two decades. The pathogensis of PMH was unclear. The presence of P. acnes has been considered as the main cause of this entitity. It has been identified in cultures of the skin lesions, whereas it has not been found in healthy unaffected skin.[1]

Clinically, PMH is characterized by asymptomatic ill defined hypopigmented patches without significant scale, usually confined to the trunk and back sometimes extending to groin and axillar with facial sparing. The lesion are described on area with high follicular density of sebaceous glands.[2] The lesion has been described as red follicular fluorescence when highlighted with Wood's lamp. Histological study usually revealed normal epidermis with a reduction of melanin but normal in the number of melanocytes. Ultrastructurally, stage II and III melanosomes have been identified in the hypopigmented area and stage IV melanosomes in the healthy skin.[3] The major differential diagnosis of PMH is Pityriasis vesicolor, pityriasis alba and post inflammatory hypopigmentation as well as other less common disorder such as hypopigmented mycosis fungoides or tuberculoid leprosy. The clinical history, physical examination with wood's lamp and histology should reveal the correct diagnosis.[1]

The light therapy for PMH has been reported from both PUVA and NB-UVB. Only a few reports exist of treatment with NB-UVB, with the variation of number of treatment session as well as the initial dose and the maximum dose. The number of treatment sessions range from 16-48, and the maximum dose reach ranges from 952 to 11500 mj. Of note, however, is the fact that although complete repigmentation was achieved in all

cases, recurrence of the lesion occurred in most cases within weeks and months after stopping the treatment.[4-6]

In our case, NB-UVB therapy showed excellent response of skin repigmentation at 90% after 18 sessions with accumulative dose of 20500mj/cm2. There is no difference between pretreatment of meladinine and non meladinine area. The possible mechanism of NBUVB in PMH could be (1) NB-UVB has antibacterial property, action on reducing Propioni bacterium colonies.[7] (2) NB-UVB stimulate melanogenesis via the stimulation of endothelin-1 (ET-1) by keratinocytes and matrix metalloproteinase-2 (MMP-2) activity, increase melanocyte proliferation and migration respectively.[8]

In conclusion, PMH is not an uncommon condition. It commonly affects young adult and its appearance can be embarrassing and upsetting. We propose that NB-UVB is the effectively and safely treatment as a monotherapy for PMH, although temporary outcome reported.

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