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Full Length Research Article

NYLON CLOTHING AND SCRUB BATH STONE DERMATITIS

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ABSTRACT

53 patients are selected and they are asymptomatic in their aspects. 23 patients have nylon scrub used for bath and 10 patients wearing the nylon clothing and remaining are not used the nylon brush but they have hyper pigments on the face, back and fore arm. Nylon brush user have bluish black pigments on the bone and below the bony prominence and other 10 regular users of nylon or synthetic clothing have blackish discoloration on abdomen , back and shoulders.

INTRODUCTION

Primary cutaneous amyloidosis consists of deposition of amyloid in previously normal skin, with no evidence of deposits occurring in internal organs. Various clinical types are recognized. Macular and popular forms are the commoner presentation. Macular amyloidosis present as clusters of small pigmented macules 2-3 mm in diameter, which may coalesce to produce macular hyper pigmented areas. The lesion is seen over the extensor aspect of the extremities and back. A reticulate or rippled pattern is a characteristic diagnostic feature. The cases usually present in early adult life with female preponderance.
There have been recent reports of macular amyloidosis which has been reported to follow prolonged chronic friction such as the use of nylon brush (Sumitra S Yesudian, 1993; Iwasaki *et al*., 1991 and Wong, 1988).

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MATERIALS AND METHODS

53 patients presenting with asymptomatic hyper pigmented macules and patches and clinically diagnosed as macular amyloidosis were taken up for the study. A detailed history was taken regarding the use of cosmetics, bathing habits and occupation. The patients were divided into two groups, depending upon the absence or presence of friction from nylon scrubbers used during bathing. Punch biopsies were taken from the hyperpigmented areas in all the 43 cases and histopathological examination was done using H and E and special stains for amyloid.

RESULTS

Of the 53 patients included in the study, 23 gave a history of using nylon scrubbers during bathing. These patients were in 17-22 years age group. 20 patients gave no history of friction and were in 25-30 years age group. There was a female preponderance in both the groups. The sites of involvement varied in both the group. The bluish hyperpigmented macules and patches in cases with a history of friction were seen on the sternal end of the clavicles, face, vertebral processes, proximal

and distal to the ulnar styloid process, beside the extensor forearms and lateral legs. In the non friction group the lesions were seen on the extensor forearms, exposed upper back and shins. There was complete absence of itching in all the cases. The mean duration after the presence of these lesions was 1 year. Histopathological examination revealed deposits in the dermis by H and E stains, which proved to be amyloid deposits after special stains besides pigmentary incontinence. amyloid deposits after special stains besides pigmentary incontinence.

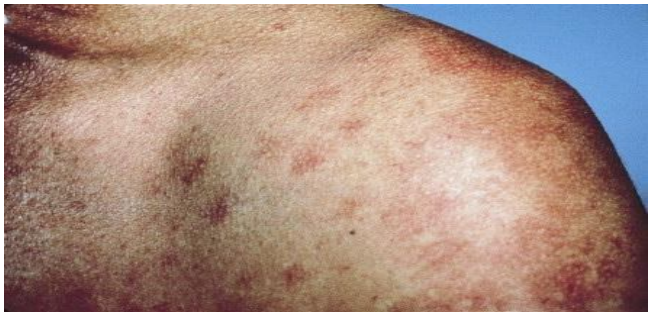

Figure 1. Showing Bluish Hyperpigmented Macules near Clavicle.

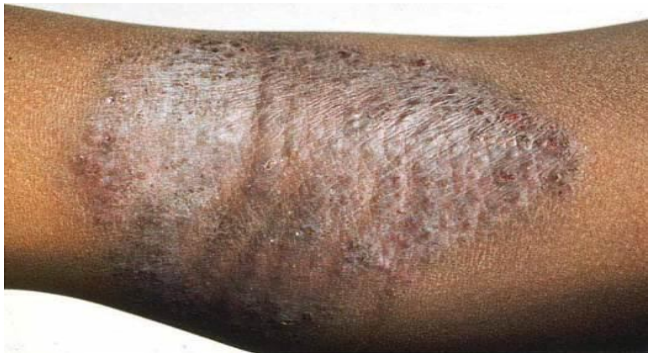

Figure 2. Showing Hyperpigmented Macules near Ulnar Process

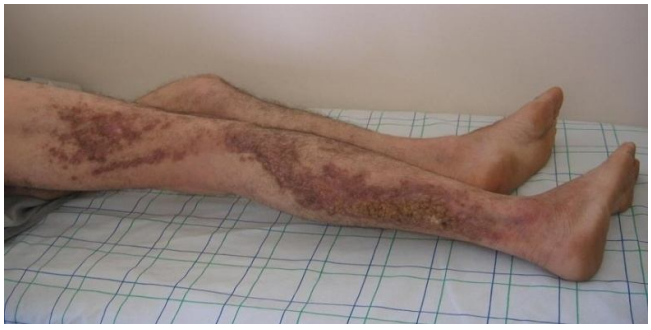

Figure 3. Showing Hyperpigmented Macules on Lateral aspect of Leg.

DISCUSSION

Nylon brush dermatosis or nylon dermatosis was first reported from Japan (Sumitra S Yesudian, 1993) later as the aetiology and clinical features became more defined report came in from different parts of the world. Sumitra and yesudian (Sumitra S Yesudian, 1993) publish a study which probed the role of friction in causing amyloidosis cutis which to the best of our knowledge is the first report from India.

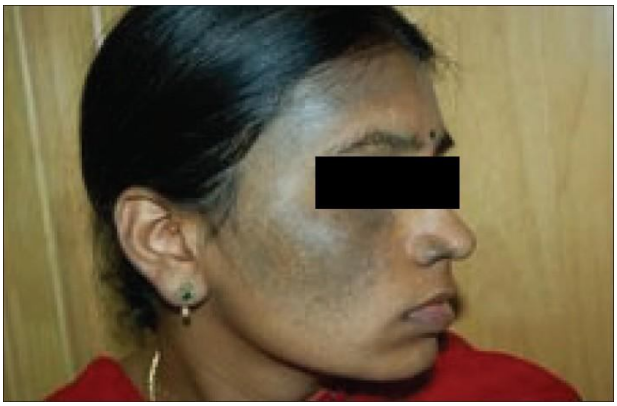

Figure 4. Showing Bluish Macules on Face.

AMYLOIDOSIS

Amyloidosis is described as a systemic disease that may involve components of immune system, although the pathogenesis of the disease is probably related to abnormal protein folding and immunological abnormalities are associated with only some forms of Amyloidosis. Amyloid is a pathological proteinaceous substance, deposited in the extra cellular space in various tissues and organs of the body in a wide variety of clinical settings. Amyloid appears as an amorphous, eosinophilic, hyaline, extracellular substance that, with progressive accumulation, encroaches on and produces pressure atrophy of adjacent cells. Amyloidosis should not be considered a single disease, rather it is a group of diseases having in common the deposition of similar-appearing proteins.

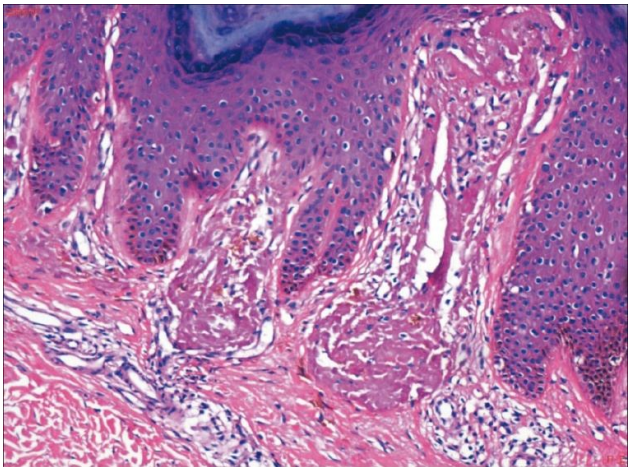

Figure 5. H & E Amyloid Deposits after Special Stains besides Pigmentary Incontinence.

Pathogenesis of Amyloidosis

Amyloidosis results from abnormal folding of proteins, which are deposited as fibrils in extracellular tissues and disrupt normal function. Misfolded proteins are often unstable and lead to formation of oligomers and fibrils that are deposited in tissues.

Types of Amyloidosis

1). Primary Amyloidosis: Immunocyte Dyscrasias with Amyloidosis.
2). Reactive Systemic Amyloidosis
3). Hemodialysis - Associated Amyloidosis.
4). Heredofamilial Amyloidosis.
5). Localized Amyloidosis.
6). Endocrine Amyloidosis.
7). Amyloid of Aging.

Clinical Features

Amyloidosis may be found as an unsuspected a anatomic change, having produced no clinical manifestations, or if may cause death. Clinically as weakness, weight loss, light headedness, syncope. Has renal involvement - Proteinuria, Nephrotic Syndrome, Renal Failure. Cardiac Amyloidosis may present as insidious congestive heart failure, Conduction abnormalities, Arrhythmias. Gastrointestinal Amyloidosis is asymptomatic, but with diarrhoea, malabsorption, disturbance in digestion.

Diagnosis

Histological examination, biopsy from kidney, examination of abnormal fat aspirates stained Congo red. Serum and urine electrophoresis and immunoelectrophoresis, Bone marrow aspirates, Scintigraphy. Our study, taken up over two years, was designed to understand the cause, symptomatololgy and morphology of macular amyloidosis in the local population, where the practice of using nylon scrubbers during bathing, is prevalent especially among female. In the process, two clear groups emerged those who used nylon scrubbers during bathing and those who did not. Both groups reported complete absence of itching. Female accounted for almost all our case population, which is again at variance with earlier report. (Sumitra S Yesudian, 1993 and MM Black, 1992)

The bluish black pigmentation, the most striking feature in the friction group over the medical end of the clavicles and proximal and distal to the ulnar styloid process. The patches whish are suggestive of Friction macular Amyloidosis are seen typically near the bony prominence, but not it, as the elastic skin moves at the time of scrubbing. Nylon friction dermatitis: A distinct subject of macular amyloidosis somani V K, shailaja H, sita V, rizvi F – Indian J Dermatol Venereol Leprol and the ,maximum impact of the frictionl damage is borne by the skin proximal and distal to the prominence during to and motion of scrubbing.

In the non-friction group there was not a single case showing involvement of the bony prominences. There were two instances where sisters had similar involvement, showing a familial tendency. In addition of the lesions on the upper back and extensor aspect of the forearms which are exposed to the sunlight could point to sunlight as one of the contributory factors in the non-friction amyloidosis besides racial and familial factor. Cosmetics and sopes could not be implicated despite a detailed history. We feel the picture presented in frictional macular amyloidosis is distinct enough to merit a sub-classification in macular amyloidosis. A partial response was obtained by using combination of potent steroids, salicylic acid and bleaching agents. Prevention and patient education remain the only options available to minimize frictional macular amyloidosis.

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