Case report

Report of two rare cases of Kindler’s syndrome in siblings

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Abstract

Kindler’s syndrome is a rare autosomal recessive disorder. It is characterized by trauma-induced blistering, photosensitivity, poikiloderma and mucosal inflammation. It occurs due to mutation on chromosome 20p. This report describes two siblings with history of blistering and photosensitivity in childhood and later developed poikiloderma with histopathology of effected skin showing features of poikiloderma.

Key words: Kindler's syndrome, Photosensitivity, Poikiloderma

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Kindler’s syndrome is a rare autosomal recessive disorder. It was first described in a 14 year old girl by Kindler in 1954. Since then, around 100 cases have been reported worldwide with no geographic or ethnic predisposition. It is a form of epidermolysis bullosa, but it is clinically and pathologically different. Two rare cases of kindler’s syndrome occurring in siblings are reported here.

Case report 1

A 20 year old housewife from Nalgonda presented with black and white pigmented spots all over body since early childhood and excess wrinkling of skin all over body, predominantly over extremities since adolescence. On detailed history, it was found that though she was apparently normal at birth, developed recurrent blistering over extremities, especially over trauma prone areas since infancy, which gradually improved after 2 years of age. Blisters were clear fluid filled, over normal looking skin, ruptured within 2-3 days and healed without scarring; as per information given by parents. There was history suggestive of mild photosensitivity in early childhood which subsided later. There was no history of oral lesions or hair abnormalities or difficulty in deglutition or bowel disturbances. There was no history of passing red coloured urine indicative of porphyrias. Patient was born to 2nd degree consanguinous marriage, with history of similar complaints in brother.

Cutaneous examination revealed generalised mottled pigmentation (Fig 1) and excessive wrinkling of skin indicative of epidermal atrophy (Fig 2) suggesting poikiloderma; predominantly over sun exposed areas with no flexural sparing or accentuation. Gingiva was erythematous and inflammed. There were no oral erosions. There was thickening and tightening of skin in 1st web space of bilateral hands (pseudosyndactyly). Palms and soles were spared. Few nails showed koilonychia, beaus lines and few were dystrophic. Hairs were normal.

Case report 2

16 years old, male student, younger sibling of case 1, presented with black and white pigmentation all
over body from early childhood and excess wrinkling of skin over extremities since adolescence. On detailed history, it was found that he was apparently normal at birth, developed recurrent blistering over extremities since infancy, which gradually improved after 3 years of age; similar to case 1, as per information given by parents. There was history suggestive of mild photosensitivity in early childhood.

On examination there was generalised mottled pigmentation (Fig 3) and excess wrinkling of skin indicative of epidermal atrophy (Fig 4); predominantly over sun exposed areas without flexural sparing or accentuation. There are no oral erosions or gingival inflammation or pseudosyndactyly.
Diagnosis was made by histopathology which showed epidermal atrophy with flattening of rete ridges, basal cell vacuolization, mild orthokeratotic hyperkeratosis, papillary dermal edema, dilated blood vessels, melanophage and perivascular infiltration of lymphocytes and histiocytes (Fig 5 and Fig 6) suggestive of poikiloderma.

As there is no specific treatment for this condition, Patient was counselled about the nature of condition and was advised protection of skin from mechanical trauma, sun avoidance, good oral hygiene, regular use of sunscreens and moisturisers.

Discussion

Kindler’s syndrome, a rare autosomal recessive disorder is caused due to loss-of-function mutations in the gene encoding fermetin family homologue 1 (kindlin 1/ FERMT1) on chromosome 20p12.31,3,5,6. FERMT1 is an actin cytoskeleton associated protein which links it to extracellular matrix via focal adhesions, with a role in keratinocyte adhesion, migration and proliferation4. It is characterized by trauma-induced blistering, photosensitivity, poikiloderma and mucosal inflammation1,4. In neonates and infants, skin fragility and blistering are prominent findings3,4. Blistering and photosensitivity improves with age whereas poikiloderma and atrophy, particularly on sun exposed sites worsens with progressing age1,2,6. Additional findings include telangiectasia, palmoplantar keratoderma, pseudo-ainhum, nail dystrophy, pseudosyndactyly, periodontal disease with erosive gingivitis3,7, gingival hypertrophy, leukokeratosis of lip and oral mucosa; oesophageal, anal, urethral and vaginal stenosis; squamous cell carcinoma of skin or mucosae may also occur5,9,10. Different types of visceral malignancies are reported in association with kindler’s syndrome. They are usually aggressive and metastasize early. Patients suffering from this disorder usually have a normal life span, but significant morbidity may be caused by secondary infections of congenital blisters, mucosal involvement leading to urethral, anal, and esophageal stenosis, accelerated periodontal disease, malignancies and ocular complications. Histopathology of poikilodermatous skin shows hyperkeratosis, epidermal atrophy, loss of rete ridges, dermal pigmentary incontinence, colloid bodies and blood vessel ectasia. Ultrastructurally there may be reduplication of lamina densa and clefts around the basement membrane zone, which may be at the level of the basal keratinocytes, within the lamina lucida or beneath the lamina densa in case of blisters. Antibodies against type VII collagen shows extensive broad bands with intermittently discontinuous and reticular staining at the dermoeipidermal junction11.

Conclusion

Both the patients reported here were siblings born to 2nd degree consanguineous marriage and showed poikiloderma along with history suggestive
of blistering over trauma prone areas and photo-sensitivity which gradually improved with age, characteristic of kindler’s syndrome. Occurrence of kindler’s syndrome in two members of same family is very rare.

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