PROGRESSIVE ISOLATED PARTIAL ANHIDROSIS

Surg Cdr PLK DE SYLVA ^{*}, Surg Capt KM SHAH ⁺,
Surg Cdr CC VARMA [#]

MJAFI 1998; 54: 276-277

KEYWORDS : Anhidrosis

INTRODUCTION

Anhidrosis or hypohidrosis occurs due to disorders of the brain, spinal cord, sweat glands or peripheral nerve injuries [1]. When large areas of decreased sweating are present, it is associated with compromised heat acclimatisation and tolerance causing anhidrotic asthenia and unexplained fever [2].

Partial anhidrosis is an uncommon disorder and maybe an indicator of a neurological disorder or leprosy. Segmental hypohidrosis with or without pupillary changes, sensory neuropathy and hyporeflexia have known to occur rarely [1,3]. Very few cases of progressive segmental anhidrosis are available and one such case is reported.

CASE REPORT

A thirty-one-year old serving soldier presented with patchy areas of hyperhidrosis of two and a half years duration. Following his transfer from high altitude to the plains, he collapsed after vigorous exercise during the warm season. He was observed to have increased sweating from the left side of the trunk and upper limb, right lower limb, face and neck and anhidrosis in the other areas. There was no record of body temperature at that time. He gave no history of trauma, prior skin disease, sensory loss, drug intake, alcoholism, frost bite, surgery or hyperthermia.

Examination revealed a well built and nourished apparently normal individual with patterned segmental anhidrosis viz. right side of chest, abdomen, back and upper limb and left gluteal region and lower limb. General and systemic examination including neurological evaluation was normal. Pupillary reaction and reflexes were normal.

Skin, hair and sensory perception was normal. There was no evidence of Hansen's disease. Haematological parameters, biochemistry including blood sugar, VDRL, X-rays of skull and chest, CT scan of brain and cervical spine and MRI of cervical spine were normal. The pilocarpine test was negative in affected areas. Exercise and exposure to heat caused excessive sweating in unaffected areas. Temperature, pulse and blood pressure remained within normal limits. Skin biopsy revealed normal architecture. There was no loss or decrease in the number of sweat glands.

He was advised to avoid exposure to extreme hot environment and excessive physical exertion during warm months.

Fig. 1 : Partial anhidrosis

DISCUSSION

Localised areas of hypohidrosis may help in the diagnosis of neurological or infective skin disorders e.g. intracranial space occupying lesions, syringomyelia or leprosy. There maybe associated compensatory hyperhidrosis, which was observed in this case [1,2].

Ross syndrome, a rare disease, with progressive segmental hypohidrosis, tonic pupils and areflexia of

^{*}Classified Specialist in Dermatology, STD and Leprology, INHS SANJIVANI, Willingdon Island, Naval Base, Kochi-682 004, ⁺Senior Advisor in Dermatology, STD and Leprology, [#]Classified Specialist in Surgery and Neurosurgery, INHS ASVINI, Colaba, Mumbai-400 005

the lower limbs (Holmes - Adie syndrome) has been reported in both sexes between the ages of three to fifty years [1,3]. Partial anhidrosis associated with multiple ectodermal defects, cleft lip and palate, neurosensory deafness and other anomalies has been reported and is an inherited disorder [4,5]. Partial anhidrosis, in the absence of associated skin or systemic disease is very rare. Faden et al [6] reported a case of partial anhidrosis without tonic pupils, sensory neuropathy or areflexia. The involved areas were responsive to intradermal cholinergic agents initially but later did not respond [1,3]. There was no response to intradermal pilocarpine and no pupillary or neurological abnormality in our case [3].

Eccrine sweat glands are innervated by sympathetic fibres. Physiological sweating is cholinergic. The mechanism of anhidrosis in this case is not known but may be the result of selective degeneration of preganglionic sympathetic fibres [1,3].

REFERENCES

1. Champion RH. Disorders of sweat glands in : Champion RH, Burton JL, Ebling FJG eds Textbook of dermatology, fifth edition, Oxford: Blackwell Scientific Publications 1993; 1745-62.
2. Babu KKR. Disorders of sweat glands in : Valia RG, Valia AR eds. IADVL textbook and atlas of dermatology, first edition, Bombay, Bhalani Publishing House 1994, 587-613.
3. Sato K. Disorders of the eccrine sweat gland in : Fitzpatrick TB, Eisen AZ, Wolff K, Freedberg IM, Austen KF eds. Dermatology in general medicine, fourth edition. New York, McGraw Hill 1994; 740-53.
4. Cram DL, Resneck JS, Jackson WP. A Congenital ichthyosiform syndrome with deafness and keratitis. Arch Dermatol 1979; 115 : 467-71.
5. Hay RJ, Wells RS. The syndrome of ankyloblepharon, ectodermal defects and cleft lip and palate : an autosomal dominant condition. Br J Dermatol 1976; 94 (3) : 277-89.
6. Faden AI et al. Progressive isolated segmental anhidrosis. Arch Neurol 1982; 39: 172 in : Fitzpatrick TB, Eisen AZ, Wolff K, Freedberg FJG eds Textbook of dermatology in general medicine, fourth edition. New York, McGraw Hill 1994 ; 753.