

# Siblings with sweaty palms and soles: genetically transmitted or idiopathic?

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Accepted 8 May 2019

## DESCRIPTION

An 11-year-old girl presented with excessive and slowly progressive sweating of her palms and soles for the past 2 years. Her symptoms persist throughout the day and become minimal or absent during sleep. These symptoms are exaggerated during stress, reading, writing and whenever she is being watched. There was no excessive sweating over other body parts, such as the face, armpits and groins. Because of the excessive sweating, she has difficulty in holding a pen and doing her school homework and feels shy in front of others. There was no history of repeated skin infection, pain, pungent body odour and heat intolerance. She denied any history of drug intake. She was born to consanguineous parents, and her younger brother (8 years old) has similar complaints since 6 years of age. Her maternal grandfather also had similar symptoms since childhood (figure 1).

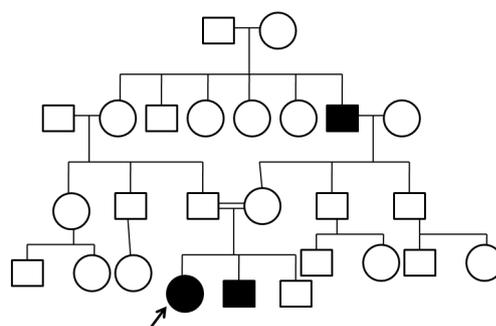
On examination, she had palmoplantar hyperhidrosis (figure 2). The rest of the examination was unremarkable. Her blood sugar and thyroid profile was normal. On the basis of clinical history and examination, a diagnosis of primary focal hyperhidrosis was concluded. She was started on 20% aluminium chloride hexahydrate and she had partial response to the symptoms.

Hyperhidrosis is a condition characterised by excessive sweating and can be focal (localised like palm and soles) or generalised (whole body). On the basis of underlying aetiology, it is broadly classified into two categories: primary and secondary. Secondary hyperhidrosis is caused by certain malignancies, diabetes, hyperthyroidism, obesity, gout and mercury poisoning.<sup>1</sup> Primary hyperhidrosis is not associated with any underlying aetiology. Family history has been reported by some patients. Ro and



**Figure 2** Photograph of the child showing bilateral palmar hyperhidrosis.

colleagues<sup>1</sup> reported a recurrence risk of 0.28 in the offsprings of the proband and 0.14 in the parents of the proband, and proposed a vertical transmission with variable penetrance. Yamashita *et al*<sup>2</sup> reported that 36% of patients had positive family history and 58% had vertical (probable autosomal dominant) transmission, and both sex were equally affected. Higashimoto and colleagues<sup>3</sup> performed a linkage analysis of 42 affected and 40 unaffected individuals of 11 families and identified the genetic locus of primary palmoplantar hyperhidrosis on chromosome 14 (14q11.2-q13) in 3 of the 11 families. In our case, three members of the family were affected and had horizontal transmission. We suggest a probable autosomal recessive inheritance pattern apart from autosomal dominant and sporadic cases for primary palmoplantar hyperhidrosis. Further studies are required to ascertain the genetic aetiology. Psychotherapy, antiperspirants (aluminium chloride and tannic acid), iontophoresis, anticholinergic drugs (oxybutynin and glycopyrrolate) and



**Figure 1** Schematic pedigree chart of the family showing three affected family members, suggestive of autosomal recessive inheritance pattern.

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**To cite:** Sharawat IK, Dawman L. *BMJ Case Rep* 2019;**12**:e230609. doi:10.1136/bcr-2019-230609

## Learning points

- ▶ Hyperhidrosis is characterised by excessive sweating and can be focal (localised, such as palm and soles) or generalised (whole body).
- ▶ Most of the cases are sporadic, and familial cases are transmitted by an autosomal dominant pattern and very rarely by an autosomal recessive inheritance pattern.
- ▶ Psychotherapy and medical management are the preferred modalities for mild to moderate cases.
- ▶ Video-assisted thoracoscopic sympathectomy is used in refractory cases.

botulinum toxin are the available medical treatments. Video-assisted thoracoscopic sympathectomy is used in refractory cases.

**Contributors** IKS: patient management, literature review and initial draft in the preparation of the manuscript. LD: critical review of the manuscript for important intellectual content and final approval of the version to be published.

**Funding** The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

**Competing interests** None declared.

**Patient consent for publication** Parental/guardian consent obtained.

**Provenance and peer review** Not commissioned; externally peer reviewed.

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