THE VANISHING GHASTLY BLEEDS - HEMATOHIDROSIS
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Abstract:
Hematohidrosis is a very rare clinical phenomenon of sweating blood. A 10 year old female child presented to us in March 2012, with a history for bleeding from the scalp on and off for the past 3 days. There was a history of head tonsure 2 weeks back and a trivial head injury 5 days back. With this history, the child was worked up for a bleeding disorder. But the entire coagulation work up was normal including the factor XIII assay. The site of bleed was also not specific, it varied and lasted for 5 to 10 mins only. The child reported a sort of tingling sensation before the bleed started at that particular site. Once the blood was wiped off, there was neither a sign of injury nor any bleed site identifiable on the scalp which made us suspect that it was a sweat and not blood alone. The bleeding was also painless. We then suspected hematohidrosis based on a few case reports in literature. The sweat was sent for a microscopic analysis, which proved the presence of RBCs and the benzidine test confirmed the same. Since a strong association between psychological stress and this condition has been postulated, we sent the child for a psychiatric opinion. A skin biopsy was also performed which was normal. The child improved subsequently with no specific medications. We now considered the possibility of the discharge being a sweat and went on to browse the literature for similar case reports after which we found out few such cases being diagnosed as hematohidrosis and their presentations were exactly similar to our case. We proceeded further and examined the discharge microscopically, which showed the presence of red blood cells confirming the presence of blood in the discharge and the chloride concentration of discharge was similar to that of sweat. Previous reports had shown a strong relation between psychological stress and the incidence of hematohidrosis. Hence with further probing into history we found that the child’s dad was strict about her academics for which she was often being scolded for being a very average performer at school. She was thus scared of her father who always wanted her to top the class. We sent the child for a psychiatric opinion where no strong psycho social factor could be identified and child was just reassured about her scholastic performance. The child was also found to have primary enuresis and was advised to take T. Imipramine for the same. While on admission, the child had bleeding from other sites as well like face, nose, arms and neck.

Keyword: Hematohidrosis, blood sweating, chromhidrosis, skin bleeding

Case summary
A 10 year old female child, first born of second degree consanguinous parents was brought to us with the complaints of bleeding from the scalp for past 3 days. There were multiple episodes each lasting for a few seconds to a minute and were self limiting. We ourselves witnessed a few episodes while child was on admission. The parents gave a history of head tonsure 2 weeks back and a trivial head trauma 5 days back which had no relation to the different sites of bleed. The child was otherwise healthy with no previous bleeding episodes or hospitalizations. The child was not on any drugs. There was no history of ingestion of any dyes. There was no family history of any bleeding disorder and the younger sibling who was 8 years had no such similar complaints.
We also obtained a dermatologist opinion who suggested a skin biopsy to be done. Skin biopsy was done which however turned out to be normal. With no other identifiable factors leading on to this phenomenon in this child, we had to counsel the parents, especially the father for his attitude towards his child's academic performance. He was very receptive and co-operative. We also advised him to make her participate in more extra curricular activities and meditation which he readily accepted and the child was discharged in a week’s time. After discharge the child had no further episodes till date and she is on regular follow up, doing well at school.

**Discussion:**
Hematohidrosis is a condition in which the capillaries that feed the sweat gland rupture and exude blood, which occurs under conditions of extreme physical or emotional stress. They causes are generally divided as religious and non religious. The religious cause is a stigma, which meant a spot, sign, wound or a mark left on slaves. From the time of crucification of Christ, this term took a special meaning as reproduction of wounds on palms, soles and crown that Jesus suffered on the cross. A psychogenic stigma is another type of skin bleeding through scars, open wounds and unbroken skin. Patients belonging to this type were mainly neurotics. Chromhidrosis refers to the production of coloured sweat. Colour produced may be red, black, violet, blue, brown, yellow, orange or green. It is produced by the deposition of lipofuschin pigment in the apocrine sweat gland. Face is the most commonest site to be involved. The exact mechanism of this phenomenon is yet to be elucidated. Multiple blood vessels are arranged in a net like fashion around the sweat glands. Under the pressure of great stress, the sympathetic nervous system is activated which causes the vessels to constrict and when the anxiety passes away the vessels dilate to the point of rupture. As a result of which blood enters the sweat gland which pushes it to the surface along with sweat and presents as droplets of blood mixed with sweat on the skin surface. Manounukul et al suggested that stromal weakness could occur due to defect in the dermis and communication between these defects and the vascular spaces can lead to their dilatation as the blood centers. Whenever the positive pressure within the vascular spaces increase, blood will exude into the follicular canals or directly into skin surface. After this, these vascular spaces collapse leaving behind no scar. This phenomenon is compared to that of a balloon, thus explaining its waxing and waning course. One study revealed some intradermal bleeding and emphasised (otructed) capillaries in skin biopsy. No abnormality was found in sweat glands, hair follicles and sebaceous glands. They concluded that pathological basis for hematohidrosis might be a distinctive vasculitis. The skin biopsy in this child was done while on admission but symptom free for 3 days, probably because of which we got a normal biopsy report which should have been ideally done in the acute symptomatic phase. However the child improved dramatically after the counselling and didn't require any medication. We present this case for its extreme rarity.

**Conclusion:**
Hematohidrosis is a rare phenomenon which has a very strong correlation with psychological stress. Thus when this condition is suspected a detailed history of any significant psycho social factors should be obtained and counselled appropriately, which is the most important aspect in the treatment of this condition. Though propranolol therapy to control sympathetic drive and atropine patch to decrease sweat production have been tried by some, a universally accepted specific treatment is yet to be devised.

**References:**