OSLER-WEBER-RENDU SYNDROME: CASE REPORT

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ABSTRACT
Osler–Weber–Rendu syndrome, also known as hereditary haemorrhagic telangiectasia (HHT), is a rare disorder of the fibrovascular tissue. It is an under-recognized disorder that results from multisystem vascular dysplasia. It is characterized by telangiectasias and arteriovenous malformations (AVMs) of skin, mucosa and visera. Most affected persons present with recurrent epistaxis which increases in frequency and severity with age. We report a 35 year old male farmer who was admitted on account of several episodes of epistaxis which started since he was five years old. He also started having recurrent haematochezia three years prior to presentation. Examination revealed multiple telangiectasias on his tongue and buccal mucosa. A colonoscopy done revealed multiple angiodysplasias in the transverse as well as the sigmoid colon. Pertinent questions that remain to be answered include the true prevalence of HHT in Nigeria and sub-Saharan Africa.

Keywords: Osler-Weber-Rendu, Hereditary haemorrhagic telangiectasia, Epistaxis, Arteriovenous Malformations, Angiodysplasia

Key Messages: This is a rare condition with only two previously reported cases from Nigeria. Reporting this case will further raise the awareness of its existence in sub-saharan Africa and remind the clinician of its possibility in cases of unexplained recurrent epistaxis.

INTRODUCTION
Osler–Weber–Rendu syndrome, also known as hereditary haemorrhagic telangiectasia (HHT), is a rare autosomal dominant disorder affecting fibrovascular tissue. It is an under-recognized disorder that results from multisystem vascular dysplasia and up to 95% of affected persons present with recurrent epistaxis with the mean age of first event being about 12 years. Generally the nosebleed increases in frequency and severity with age.1 We report a case of a 35 year old male farmer who had recurrent epistaxis, haematochezia and multiple gastrointestinal findings. This is the third case being reported from Nigeria.

CASE REPORT
A 35 year old farmer was admitted via the accident and emergency unit on account of a three-year history of recurrent haematochezia and a month history of progressive generalized body weakness. He
also has a background history of recurrent epistaxis which started at the age of five years. There is no history of rectal prolapse, melaena or haematemesis. This patient has experienced no weight loss, abdominal pain or swelling. No prior history suggestive of bleeding into a joint, muscle or any body cavity. Generalized body weakness became quite remarkable over the last month prior to admission. Over this same period he has had more frequent episodes of haematochezia. He has had several unprovoked episodes of epistaxis since childhood and these were increasingly more frequent in the last couple of months. There is no history of similar illness in this patient’s family. He received four units of blood transfusion at a private health facility close to his village two months prior to presentation on account of symptomatic anaemia.

Examination revealed a young man who was pale, anicteric with multiple telangiectasia on his tongue (fig.1) and buccal mucosa. He had orthostatic hypotension with a blood pressure drop of 126/80mmHg to 90/60mmHg on standing up from a supine position. Packed cell volume was 17%, International Normalized Ratio was 1.2, Activated partial thromboplastin time was 42 seconds and clotting time was 4 minutes. White blood count was 4,500/ mm$^3$, platelet count was 625,000/ mm$^3$. Peripheral blood film revealed profound hypochromic microcytosis. Serum electrolytes, urea and creatinine were within normal range. Liver function tests, abdominal ultrasound scan and urinalysis were normal.

A lower gastrointestinal endoscopy done revealed multiple angiodysplasia in the transverse as well as the sigmoid colon (fig. 2).

During the period of a week spent on admission, he had further episodes of epistaxis and one was particularly torrential with an estimated blood loss of 400mls. He had further blood transfusion of four units. From these findings, a diagnosis of Osler-Weber-Rendu syndrome was made.

Fig. 1: Telangiectasia on the tongue of the patient
DISCUSSION

Detailed observations of Osler-Weber-Rendu disease was emphasized and published by Henri Rendu in 1896, Sir William Osler in 1901, and Frederick Parks Weber in 1907 and the disease has come to be known by their names. Hereditary hemorrhagic telangiectasia (HHT) has been reported rarely in people of African descent and this is the third reported case from Nigeria. The reported incidence of HHT is approximately 1 per 5,000~10,000 populations per year and about 20% of the cases do not have a family history.

There are two main types of HHT: type 1 is due to mutations in endoglin, an accessory endothelial transforming growth factor-α (TGF-α) receptor and type 2 caused by mutations in ALK1 (ACVRL1; activin receptor-like kinase 1) gene. TGF-α belongs to a superfamily of soluble factors, including activins and BMPs. It is involved in different biological processes such as cell proliferation, migration, differentiation, survival, cell-to-cell and cell-matrix interactions and in oncogenesis. It is essential for the recruitment of pericytes and smooth muscle cells which lead to vascular maturation and stabilization.

Hereditary haemorrhagic telangiectasia is an autosomal dominant disease characterized by the presence of recurrent epistaxis and small characteristic malformations of the peripheral blood vessels near the surface of the skin or mucosal linings. Arteriovenous malformations of the lung, liver, and central nervous system (CNS) are also known clinical findings. Manifestations of the disorder can be very diverse with varied severity and quality of life. There

Fig. 2: Angiodysplasia in the colon of the patient
is considerable variability of severity of epistaxis in HHT and the risk factors for increasing epistaxis severity include frequency, duration, and intensity of episodes; invasiveness of prior therapy required to stop epistaxis; anaemia; and the need for blood transfusion. Its treatment is generally aimed at controlling the frequency and severity of nasal hemorrhage and involves surgery, transcatheter embolization, topical treatment like intraleral injections of bleomycin, or a combination.

Nine to sixteen percent of patients with HHT harbor brain AVMs, which can cause intracranial hemorrhage (ICH) and multiple brain AVMs may be found in up to 23% of patients on initial examination.

Diagnosis of HHT is made clinically by the Curacao criteria which were established in June 1999 by the Scientific Advisory Board of the HHT Foundation International, Inc. The Curacao criteria include epistaxis, telangiectasias, visceral lesions, and family history of HHT in a first-degree relative. The HHT diagnosis is classified as definite if 3 criteria are present, possible or suspected if 2 criteria are present and unlikely if fewer than 2 criteria are present. Our case fulfilled three criteria: epistaxis, telangiectasias and gastrointestinal lesions. Genetic study could not be done in our case because the facility was unavailable. This report further raises the awareness of the existence of this condition especially in this environment where available data on the disease is very scanty. Pertinent questions that remain to be answered include the true prevalence of HHT in Nigeria and sub-Saharan Africa.

REFERENCES


