

The Vampire – Myth or Malady?

Dua Moqem

1st Year MBBS, Islamabad Medical and Dental College, Islamabad Pakistan

Key points

- Association between vampires and porphyria
- Vampire-like characteristics and symptoms of porphyria patients
- Management of porphyria

Vampires has piqued the interest of man since the beginning of time. Folklore, books, and movies have furthered this interest. Apotropaic Observances, which are ancient burial rituals, have found evidence suggesting that people had vampire-like characteristics. Such discoveries have led to the emergence of cultural myths. Moreover, it has been found that such fictitious depictions had been put forward due to an ailment—Porphyria.¹

Causes:

Porphyria is an autosomal dominant disease that is slightly more common in males.² Porphyria is a group of eight major blood disorders, each resulting from eight of the nine body's heme-producing mechanisms being mutated, where heme is the oxygen-carrying protein of hemoglobin. The liver and bone marrow are the primary sites of heme biosynthesis. The type of porphyria occurring depends on the unique mechanisms and biology of the cell.³ One of the most common types being Porphyria Cutanea Tarda (PCT), which occurs due to the inability of the liver to produce enough of the enzyme uroporphyrinogen decarboxylase (UROD), which is important in the heme biosynthetic pathway. This disease is activated by the accumulation of iron due to genetic defects, and the use of alcohol and tobacco causes damage to liver cells, leading to a deficiency of UROD in the liver. This process leads to the accumulation of porphyrins, which are then poured into the circulatory and excretory systems.

Sign and Symptoms:

A major reason for this disease being characterized as Vampire Disease is the patient's symptoms. Vampires are presumed to have pale, dead skin. Patients with porphyria are less exposed to the sun because they are photosensitive and have pale vampire-like skin. The appearance of blistering lesions on the skin is a hallmark of this disease. In addition, the skin becomes fragile and easily peels off.^{1,2}

Complications:

Owing to reduced heme production, individuals with this disease are at an increased risk of malignancy, particularly

hepatocellular carcinoma. Moreover, they are also susceptible to multiple liver diseases such as fibrosis and cirrhosis.⁴

Management:

Direct exposure to sunlight should be avoided by wearing appropriate clothing and sunglasses and applying sunscreen. Analgesics may be administered to alleviate the pain caused by skin lesions. Alcohol use, smoking, and other medications that worsen PCT levels must be avoided at all costs. Antibiotics can be used to treat infected skin lesions may be taken.²

Conclusion:

In olden times, the uncanny similarities between the individuals with porphyria and the vampires described in stories and folklore led people to believe in the myth of vampirism. However, scientists have recently discovered that it was the disease that caused the acquisition of vampire-like characteristics. Hence, porphyria also came to be known as "Vampire Disease."

References:

1. Christner CJ. Explaining the Vampire Legend through Disease. Undergraduate Research Journal. 2019;23(1):5.
2. Singal AK. Porphyria cutanea tarda: Recent update. Molecular genetics and metabolism. 2019 Nov 1;128(3):271-81.
3. Yasuda M, Chen B, Desnick RJ. Recent advances on porphyria genetics: Inheritance, penetrance & molecular heterogeneity, including new modifying/causative genes. Molecular genetics and metabolism. 2019 Nov 1;128(3):320-31.
4. Ramai D, Deliwala SS, Chandan S, Lester J, Singh J, Samanta J, Di Nunzio S, Perversi F, Cappellini F, Shah A, Ghidini M. Risk of hepatocellular carcinoma in patients with porphyria: a systematic review. Cancers. 2022 Jun 15;14(12):294