It is illegal to post this copyrighted PDF on any website. Dengue-Associated Telogen Effluvium Causing Body Dysmorphic Disorder: An Unreported Association

Bishurul Hafi, MD,^a and N. A. Uvais, MBBS, DPM^{b,*}

D engue is one of the quickest spreading arboreal diseases in the world as per World Health Organization categorization. It is produced by a single-stranded RNA virus with 4 distinct serotypes (DEN V 1–4).^{1,2} In the last decade, surprisingly intense outbreaks of dengue fever and related deaths have been reported from India. All 4 serotypes have been discovered in different parts of the nation. In 2017, approximately 18,700 cases were confirmed in India, of which 9,104 cases were from the state of Kerala.³

Hair loss following dengue infection is a common clinical observation in the endemic area but extremely underreported. It is one of the causes of acute telogen effluvium, which is defined as an acute-onset scalp hair loss that occurs 2 to 3 months after a triggering event such as childbirth, febrile states, crash diets, major surgery, medication use, iron or nutritional deficiency, thyroid dysfunction, illicit drug use, renal failure, hepatic failure, or psychoemotional stress.^{4,5}

Body dysmorphic disorder (BDD) is characterized by a distressing preoccupation with an imagined or slight defect in appearance of a body part.⁶ Here, we report the case of a young woman with BDD caused by stigmatization due to hair loss following dengue infection.

Case Report

A 21-year-old woman was brought to the psychiatric outpatient department of a tertiary care hospital by her parents. The patient had high fever and joint pain 6 months ago during a dengue outbreak in the region. Her serum rapid dengue IgM antibody test was positive. She started experiencing significant diffuse hair loss, more than 200 hairs/day, after a period of 1 month since the onset of fever, which gradually and spontaneously resolved within 3 months.

^bDepartment of Psychiatry, Iqraa International Hospital and Research Centre, Calicut, India

*Corresponding author: N. A. Uvais, MBBS, DPM, Iqraa International Hospital and Research Centre, Calicut, Kerala, India

(druvaisna@gmail.com).

Prim Care Companion CNS Disord 2023;25(2):22cr03241

To cite: Hafi B, Uvais NA. Dengue-associated telogen effluvium causing body dysmorphic disorder: an unreported association. *Prim Care Companion CNS Disord*. 2023;25(2):22cr03241.

To share: https://doi.org/10.4088/PCC.22cr03241 © 2023 Physicians Postgraduate Press, Inc. She was engaged to be married, and as the date of the wedding was approaching, she began having excessive preoccupation with the quantity of her hair. She spent many hours thinking about it and checking her hair repeatedly in the mirror. She avoided interacting with others as well as attending family functions. She thought her marriage would fail due to the hair loss problem. She gradually lost interest in daily activities, and her sleep and appetite became irregular. Her socio-occupational functioning was significantly impaired. She was diagnosed with BDD according to *DSM-5* criteria and started on oral sertraline 50 mg/d and oral clonazepam 0.25 mg/d.

Discussion

BDD is characterized by obsessive ideas regarding imagined physical defects or a minor defect perceived as a severe flaw to one's appearance and demanding extreme measures to hide or repair.⁷ The thoughts are pervasive and intrusive and can lead to distress, shame, and social isolation. According to *DSM-5* diagnostic criteria, an individual can be diagnosed with BDD when they experience preoccupation with 1 or more perceived defects or flaws in physical appearance that are not observable or appear slight to others; engage in repetitive behaviors or mental acts in response to the concerns; experience clinically significant distress or impairment in social, occupational, or other important areas of functioning; or have no other concerns regarding body fat or weight, such as an eating disorder. Our patient met all 4 criteria.⁸

Hair is an integral component of human external appearance, and its importance in concepts of beauty surpasses all regional and cultural differences. Hair loss of even mild severity can cause great concern for the individual, both male and female, which may lead to psychosocial distress and a decreased quality of life.

An extensive search in various databases with the keywords *dengue fever* and *hair loss* yielded only 3 relevant articles. The scarcity of literature may be due to a lack of knowledge about the association between both conditions among physicians, even in endemic regions. A case series of 14 patients with post–dengue telogen effluvium was the first to describe demographic, clinical, and trichoscopic findings.⁹ There was a high female preponderance (93%), and the age at presentation ranged from 21 to 72 years with a mean \pm SD age of 40.1 \pm 13.7 years. The onset of hair loss after acute illness of dengue ranged from 1 to 3 months with a mean of 2.1 months. But hair loss can be even the earliest clinical

^aDepartment of Dermatology, Iqraa International Hospital and Research Centre, Calicut, India

Hafi and Uvais

It is illegal to post this copy manifestation of dengue fever.¹⁰ None of the patients in the case series⁹ progressed to chronic telogen effluvium (hair loss persisting > 6 months).

Patients with hair loss are more prone to develop BDD than the general population or general dermatology patients. We found only one study¹¹ on hair loss and BDD. The authors¹¹ administered validated BDD questionnaires (Body Dysmorphic Disorder Questionnaire) to 150 patients with complaints of hair loss and 150 control subjects who were selected from among general dermatology patients. The results showed that among patients with complaints of hair

loss, 29.6% were diagnosed with BDD, which was 10 times higher than the incidence in general dermatology patients. Furthermore, hair concerns were more common in males than in females.¹¹

In conclusion, hair loss following dengue infection poses great psychological burden, especially in young females, and can lead to psychiatric disorders such as BDD. Hence, physicians should be aware of dengue-associated hair loss, especially in dengue-endemic areas or after a dengue outbreak, and the associated psychological burden so that the patients can be educated and managed appropriately.

Published online: March 9, 2023.

Relevant financial relationships: None.

Funding/support: None.

Patient consent: Consent was received from the patient to publish the case report, and information has been de-identified to protect anonymity.

REFERENCES

- 1. Simmons CP, Farrar JJ, Nguyen V, et al. Dengue. *N Engl J Med*. 2012;366(15):1423–1432.
- 2. Ross TM. Dengue virus. *Clin Lab Med*. 2010;30(1):149–160.

- Banerjee I. Dengue: The break-bone fever outbreak in Kerala, India. Nepal J Epidemiol. 2017;7(2):666–669.
- Malkud S. Telogen effluvium: a review. J Clin Diagn Res. 2015;9(9):WE01–WE03.
- Harrison S, Sinclair R. Telogen effluvium. Clin Exp Dermatol. 2002;27(5):389–395.
- 6. Mackley CL. Body dysmorphic disorder. *Dermatol Surg.* 2005;31(5):553–558.
- Zhang Y, Ma H, Wang Y. Case report of body dysmorphic disorder in a suicidal patient. Shanghai Jingshen Yixue. 2016;28(1):48–51.
- 8. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. Fifth

Edition. Arlington, VA: American Psychiatric Association; 2013.

- Chu CB, Yang CC. Dengue-associated telogen effluvium: a report of 14 patients. Zhonghua Pifuke Yixue Zazhi. 2017;35(3):124–126.
- Veraldi S, Vaira F, Raia DD, et al. Telogen effluvium as first clinical presentation of dengue. *G Ital Dermatol Venereol.* 2017;152(2):184–185.
- Dogruk Kacar S, Ozuguz P, Bagcioglu E, et al. Frequency of body dysmorphic disorder among patients with complaints of hair loss. *Int J Dermatol.* 2016;55(4):425–429.