SCIENTIFIC LETTER

GENETIC AND VENOUS INSUFFICIENCY IN NORRIE DISEASE

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Norrie disease is an X-link genetic disorder caused by the mutation of a gene called "Norrie disease pseudoglioma".[1] It is a recessive hereditary disease affecting men and characterized by congenital blindness. One third of patients, mostly as from the second decade of life, develop hearing loss, intellectual disability and behavioral disorders. In addition, they have an increased risk of developing peripheral vascular diseases such as venous insufficiency of the lower limbs and sexual impotence.[2-4] This paper describes the experience in the management of the of case brothers aged 26 and 29 with established diagnosis of Norrie disease, and both with congenital blindness. None presented auditory manifestations or cognitive disorders in the last doctor's appointment. Both showed peripheral vascular manifestations represented by chronic venous insufficiency of the lower limbs – one of them C4 and the other C6 under the CEAP classification. (Figures 1 and 2). Only one of them had erectile dysfunction, with little success after pharmacological treatment. The reason for the medical consultation was the possibility of a surgical solution to the venous insufficiency of the lower limbs, which, as revealed by venous Doppler ultrasound, was affecting the trunk of the great saphenous vein in both cases. The surgical management of venous insufficiency in these two young men posed a dilemma, since they had proven genetic predisposition to the development of venous vascular manifestations in the lower limbs, which might affect their mid- and long-term evolution.[3] The medical treatment decided consisted of phlebotonics and vasodilators, together with graduated elastic compression and scheduled exercises to strengthen the propellent-suction pumps.

The ophthalmologic manifestations of Norrie disease are usually bilateral and symmetrical. The iris, the anterior chamber and the cornea may be normal at birth, but high yellowish-gray masses or "pseudogliomas" are frequently observed behind the lens, along with retinal vascular dysgenesis and leukocoria. During the first

weeks or months of life, the retina detaches fully or partially. In childhood, patients may develop cataracts, nystagmus, anterior/posterior synechiae, band keratopathy and shallow anterior chamber with increased intraocular pressure. In its evolution, phthisis bulbi (atrophy of the eyeball) is observed together with cloudy corneas and hollow orbits. The most affected men develop progressive asymmetric sensorineural hearing loss beginning in childhood (the initial average age is 12 years old). Hearing loss may be intense and bilateral in mid-adulthood. Between 20% and 30% of patients present developmental delay and intellectual disability. Some have cognitive and psychosocial disorders, including psychosis. Peripheral vascular extraocular manifestations were described long after the first signs of this disease were reported, with venous insufficiency of the lower limbs possibly present in various degrees, even C5-C6 CEAP classes. Erectile dysfunction is also described.[1,2] The diagnosis of Norrie disease is based on clinical findings. Genetic testing may confirm the diagnosis and may help assess the risk that family members transmit a genetic mutation to their children. ■

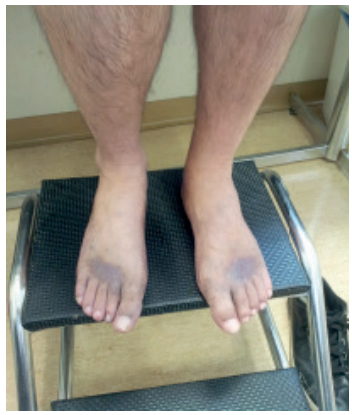

Figure 1. Trophic sequels in both foot insteps.

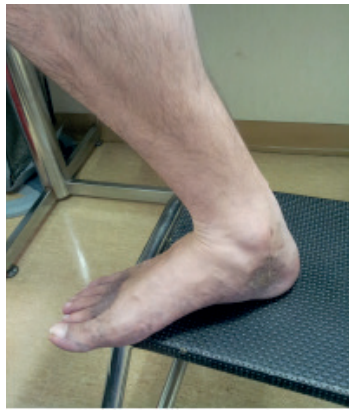

Figure 2. Trophic sequels in the inner side of the foot.

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