

The Role of PIEZO2 in Human Mechanosensation

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Bönnemann and his team (September 22 issue) at the National Institute of Neurological Disorders and Stroke (NINDS) published report of two patients carrying variants in PIEZO2 who were able to walk, write, and talk, but had ataxia and dysmetria (1). This observation (selective deficiencies in proprioceptive demand tasks along with variants in PIEZO2) led us to make three consecutive assumptions.

First, those tasks (walking, writing, and talking) require interoception rather than proprioception. Therefore variants in PIEZO2, which plays a crucial role in proprioception (2,3), could not cause noticeable deficiency in those tasks, because PIEZO2 does not interfere with interoception.

Second, sense of balance is very challenging. It improves with age (4) during childhood and even during adolescence and declines with age in elderly as well (5). Patients were 8 and 18-year-old. Thus ataxia and dysmetria can result from an immature sense of balance.

Third, proprioception is an innate skill rather than acquirable whereas interoception is an acquirable skill rather than innate and fixed. Therefore variants in PIEZO2 might dull sense of proprioception and tasks

that predominantly require proprioceptive skills (balance and coordination), while tasks that predominantly require interoceptive skills stay healthy.

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