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EDITORIAL

Search for the personality characteristic for narcolepsy type 1

Makoto Honda[1,2]

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Patients with narcolepsy type1 (NT1) have been reported to show characteristic personality even after treatment of their excessive daytime sleepiness. Honda proposed the term "narcoleptoid personality," describing that narcolepsy patients gradually developed decreased psychic tension, poor self-assertion and often appear gentle, subdued, mild, laid-back, easy-going, not very punctual, and good natured [1]. Hazumi et al. introduced the notion of "hypersomnia-specific belief," the negative belief associated with severe sleepiness consisting of 3 factors; aversion toward doze, hypersensitivity toward others reactions, and sense of defeat caused by doze, which could explain narcolepsy specific way of thinking and behavior [2]. On the other hand, narcolepsy patients are reported to have strong points. They have higher creative potential [3] associated with hypnagogic hallucination, which interacted the specific mental states of spontaneous mind wandering [4].

In the study published in the latest issue of SBR, Del Bianco et al. conducted a comprehensive study to explore psychological characteristics of NT1 patients and reported higher alexithymia score in NT1, introducing a new aspect of NT1 personality [5]. Alexithymia is originally proposed by Sifneos to describe characteristic personality of patients with psychosomatic disease [6]. Toronto Alexithymia Scale 20(TAS-20) is the most commonly used measure of alexithymia with 3-factor structure [7]; Difficulty Identifying Feelings (DIF), Difficulty Describing Feelings (DDF) and Externally Oriented Thinking (EOT). Based on the correlation analyses with other scales, the authors reported the mutual interaction between alexithymia and depression, anxiety, emotion dysregulation. The correlation of TAS-20 score (especially DIF) with Difficulties in Emotion Regulation Scale and association of both scales with the frequency of hypnagogic hallucinations indicates that hypnagogic hallucination interacts the development of emotional dysregulation and alexithymia observed in NT1.

The authors showed that NT1 showed significantly higher TAS-20 total and DDF subscale score than NT2. NT1 also showed higher DIF score compared to NT2 and controls with nominal significance. When looking into the details of questionnaire, several questions composing DIF ("I have physical sensations that even doctors don't understand," "I am often puzzled by sensations in my body") and DDF ("It is difficult for me to find the right words for my feelings," "People tell me to describe my feelings more") might reflect the unusual experience of atypical cataplexy or hypnagogic hallucination in NT1. I agree from my clinical experience that some patients showed alexithymic behaviors [6] such as "describe endless details rather than feelings" and not "use action to express emotion" but the description that NT1 patients do not "have a rich fantasy life" contradicts the reported higher creative potential [3]. Discrepancy might be caused by the difference in the interpretation of individual questions. Higher TAS-20 score in NT1 would reflect different personality characteristics from that of patients with psychosomatic disease.

NT1 is a homogeneous disorder with definitive markers; low orexin level, tight HLA association, and appearance of sleep onset REM period on PSG. So NT1 provides an ideal model to understand personality from the viewpoint of biological basis. For example, NT1 patients have reportedly low addiction risk (< 1–3%) for methylphenidate despite continuous medication using high-dose stimulants [8], which could be explained by orexin deficiency. Orexinergic system regulates various physiological functions including energy homeostasis, reward processing, arousal and stress response, and dichotomy of its function was pointed out [9]. This dichotomy of orexin function might explain the basis of apparently contradicted positive (creativity) and negative (alexithymia) aspects of narcolepsy personality, both associated with hypnagogic hallucination symptom. A Burdakov et al. raised the hypothesis that orexin system coactivates

✉ Makoto Honda
honda-mk@igakuken.or.jp

[1] Sleep Disorders Project, Department of Psychiatry and Behavioral Sciences, Tokyo Metropolitan Institute of Medical Science, Tokyo, Japan

[2] Institute of Neuropsychiatry, Koishikawa Tokyo Hospital, Tokyo, Japan

motivation and aversion brain systems to counteract the cumulative "stress."[10] Future studies are expected to understand NT1 personality from two viewpoints; symptom-triggered secondary psychological changes and alteration in neuronal systems caused by orexin deficiency.

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