Case Report

A Case of Spontaneous Halt during Ejaculation in a Juvenile Genius Mathematician with Asperger Syndrome and Bilateral Keratoconus

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Abstract

Purpose: We report a case of spontaneous halt during ejaculation in a juvenile genius mathematician with Asperger syndrome and bilateral keratoconus. Twenty years later, the patient is currently a professor of mathematics.

Observations: As a virgin in high school and university, the patient could stop his ejaculation spontaneously during orgasm while watching pornography. He was diagnosed with middle-stage Asperger's syndrome. He also had a history of pneumothorax at 22 years of age. He was referred to the ophthalmology clinic for bilateral blurred vision and was diagnosed with mild bilateral keratoconus. A bilateral set of hard contact lenses was prescribed, which resulted in normal corrected visual acuity. He is currently a prominent educational specialist and professor of mathematics in the field of algebraic geometry at a Japanese university.

Conclusion and Importance: In this case, the spontaneous halt during ejaculation might have been accompanied by then bilateral keratoconus, which might have corresponded to collagen instability considering his history of pneumothorax.

Keywords: spontaneous halt, ejaculation, mathematician, Asperger syndrome, keratoconus

1. Intruduction

Anejaculation, defined as the complete absence of antegrade or retrograde ejaculation, is caused by a failure of semen emission from the seminal vesicles, prostate, and ejaculatory ducts into the urethra [1]. Anejaculation is usually associated with a normal

orgasmic sensation and is always associated with central or peripheral nervous system dysfunction or drug use [2]. Drug treatment or interventions for anejaculation caused by lymphadenectomy and neuropathy, or psychosexual therapy for anorgasmia, are not effective. In these cases, and in men who have a spinal cord injury, penile vibratory stimulations (PVSs) are considered the first-line therapy. In anejaculation, PVS evokes the ejaculation reflex [2], which requires an intact lumbosacral spinal cord segment. If semen quality is poor or ejaculation is retrograde, couples may seek in vitro fertilization program if children are desired. In cases in which PVSs fail, electro-ejaculation can be the therapy of choice [3]. When electro-ejaculation fails or cannot be performed, other methods such as sperm-retrieval techniques may be utilized [4]. Anejaculation following retroperitoneal surgery for testicular cancer or total mesorectal excision can be prevented by performing unilateral lymphadenectomy and/or autonomic nerve preservation [5].

2. Case Description

This case involved a man who is currently 45 years of age. His previous medical history included pneumothorax at 22 years of age. Regarding his current medical history, the patient visited a local ophthalmology clinic with a chief complaint of bilateral blurred vision. The slit-lamp examination during his first visit to our hospital revealed typical bilateral corneal thinning and keratoectasia (Figure 1A, B). Anterior segment optical coherence tomography (AS-OCT) CASIA 2 (Tomey Corporation, Nagoya, Japan) examination revealed mild-stage bilateral keratoconus (Figure 1C, D). Bilaterally, one set of hard contact lenses (HCLs) was prescribed. The visual acuities in his right and left eyes were 0.4 (0.9 × -1.50 D = cyl -5.00 D Ax 100°) and 0.1 (0.8 × -1.50 D = cyl -6.00 D Ax 80°), respectively. The intraocular pressures (IOPs) measured using a non-contact tonometer (NT-4000; NIDEK Co., Ltd, Japan). were 10 mmHg, respectively.

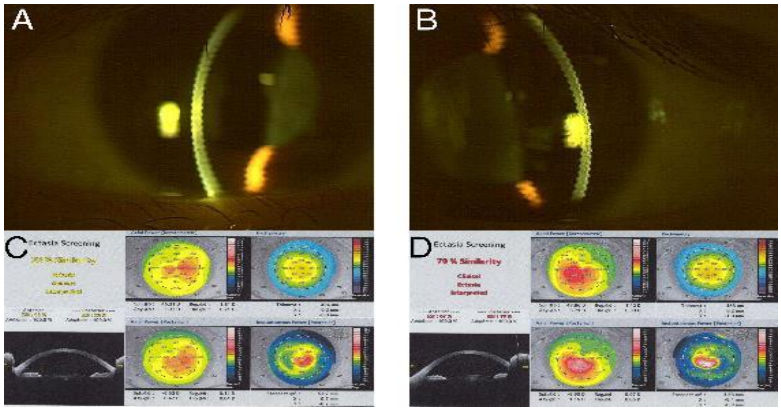

Figure 1: During the first hospital visit, slit-lamp examination revealed typical bilateral corneal thinning and keratoectasia (A: right eye, B: left eye). Anterior segment optical coherence tomography (AS-OCT) CASIA 2 (Tomey Corporation, Nagoya, Japan) examination revealed mild-stage bilateral keratoconus (C: right eye, D: left eye).

Following treatment, the patient's visual acuity reached normal levels, similar to corrected visual acuity using HCLs. The bilateral visual acuity measured using HCLs was 1.2. He is currently a prominent educational specialist and professor of mathematics in the field of algebraic geometry at a

Japanese university. The patient also had an eccentric history of spontaneous halting during ejaculation as a juvenile to the present. He is a genius mathematician and was diagnosed with Asperger syndrome during high school.

3. Discussion

Autism spectrum disorder (ASD) is categorized based on impairments in social interaction and communication, as well as repetitive and stereotyped interests and behaviors [6]. Up to 1.7% of the population is affected by ASD [7, 8]. Most individuals with ASD exhibit average intellectual functioning and are increasingly diagnosed as adults [9]. As in other neurodevelopmental disorders, male preponderance has been reported in ASD, with an estimated male to female ratio of around 4:1 [10, 11]. However, these reported sex differences are controversial and the differences may be largely attributable to gender-biased differences in a male and female symptom-based diagnosis of ASD. Individuals with ASD have difficulties in interpreting non-verbal cues, such as decoding and interpreting eye contact expressions, and have limited capabilities in the theory of mind skills [6]. In the present case, the patient's bilateral keratoconus and blurred vision prevented his eye contact and personal communications or conversations, in addition to his personality attributed to his ASD. Throughout development, social interactions become more complex, romantic and sexual relationships become increasingly important, and the learned social skills often cannot keep up with the social demands needed for the initiation and maintenance of romantic peer relationships [12]. The patient's eccentric episodes of spontaneous halt during ejaculation from adolescence to the present might be hieroglyphic iconic aspects in the sexual or autistic action pattern and personality. Thus, many stereotypes have arisen concerning sexuality-related issues in individuals with ASD, including that ASD individuals are only sparsely interested in sexual and romantic relationships or are mainly asexual [14, 15]. Contrary to these stereotypes, however, a growing body of recent research has shown that most individuals with ASD report a general interest in solitary and dyadic sexual behaviors and show the full range of sexual behaviors, similar to their clinically and pathologically normal counterparts [16-19]. Deficits in intuitively understanding social and nonverbal communication cues, difficulties in perspective-taking, inflexibility, dominant dysregulation, repetitive and stereotyped actions, and peculiarities in sensitive perception leading to underreactions to sensory sensation could hamper the development of sexual relationships and may be associated with impaired sexual functioning and the development of sexual disorders [20-22]. The present case had a history of pneumothorax at 22 years of age as well as bilateral keratoconus. Both diseases are related to the vulnerability and fragility of collagen cross-links. Extracellular matrix components such as collagen or related glycans are related to neural systems and developments [23-25].

4. Conclusion

Spontaneous halt of ejaculation in the present case might have been accompanied by bilateral keratoconus, possibly due to collagen instability considering his history of pneumothorax. The findings suggested the need to examine a large cohort of patients with keratoconus, especially those with concurrent ASD and ejaculation abnormalities, to examine the prognosis and pathogenesis of mild to severe pathogeneses related to systemic collagen synthesis.

Conflict of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Author Contributions

The Author Contributions section is mandatory for all articles, including articles by sole authors. If an appropriate statement is not provided on submission, a standard one will be inserted during the production process. The Author Contributions statement must describe the contributions of individual authors referred to by their initials and, in doing so, all authors agree to be accountable for the content of the work. Please see here for full authorship criteria.

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Data Availability Statement

The data supporting the findings of this study are available from the corresponding author, HF, upon reasonable request.

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