CASE REPORT

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The importance of identifying environmental factors for stuttering treatment in monozygotic twin girl

Značaj utvrđivanja sredinskih faktora za kreiranje tretmana mucanja kod jednojajčane bliznakinje

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Abstract

Introduction. Stuttering is a speech disorder and its etiology is an interplay of genetic and environmental factors. Despite the absence of definite etiology understanding, there are numerous available treatments for stuttering. For some adult patients, the contemporary concept includes psychotherapist involvement concomitant with speech therapist. **Case report.** A 24-year-old girl, who is a monozygotic twin, has been stuttering from early childhood, while her twin sister has never exhibited a speech disorder. Since the role of genetic factors was evident (father stuttered too), the focus of this report was on environmental factors of physical and psychological development (slow development), as well as family psychodynamics (divorce of parents in early adolescent period and criticizing from her father forstuttering). The patient, as well as her family members, denied the significance of the symptoms, which could also explain the absence of early treatment. **Conclusion.** Unfavorable conditions of psychological development, as well as family psychodynamics could explain speech therapy starting at the age of twenty-four and being insufficient for symptom overcoming. Psychotherapy is indicated in the integrative part of treatment in this case of speech disorder.

Key words:
family; genetics; parent-child relations; psychotherapy; risk factors; speech disorders; stuttering; twins.

Apstrakt

Uvod. Mucanje je govorni poremećaj čija etiologija podrazumeva međudejstvo genetskih i sredinskih faktora. Uprkos odsustvu konačnih odgovora o etiologiji mucanja, postoji više različitih terapijskih metoda. U nekim slučajevima lečenja odraslih bolesnika, savremeni model lečenja mucanja, pored logopeda, uključuje i angažovanje psihoteraputa. **Prikaz bolesnika.** Prikazana je jednojajčana bliznakinja stara 24 godine, koja muca od ranog detinjstva, dok njena sestra bliznakinja nikada nije imala govorni poremećaj. S obzirom na to da je uticaj genetskih faktora bio očigledan (otac muca), fokus prikaza je usmeren na sredinske faktore fizičkog i psihičkog razvoja (sporiji razvoj), kao i na porodičnu psihodinamiku (razvod roditelja u ranom adolescentnom periodu i kritikovanje od strane oca zbog mucanja). Članovi porodice, kao i sama pacijentkinja, negirali su značaj simptoma, čime se može tumačiti i odsustvo ranog tretmana. **Zaključak.** Nepovoljni uslovi psihološkog razvoja kao i porodična psihodinamika mogu biti objašnjenje za početak logopedskog tretmana tek u 24. godini, kao i za njegove nedovoljno dobre rezultate. Psihoterapija je indikovana kao deo integrativnog tretmana kod govornog poremećaja ove pacijentkinje.

Ključne reči:
porodica; genetika; roditelj-dete odnosi; psihoterapija; faktori rizika; govor, poremećaji; mucanje; blizanci.

Introduction

Stuttering is a speech fluency disorder with the etiology that implies the interaction of genetic and environmental factors [1, 2]. Evidence is consistent in reporting higher prevalence rates in families with a history of stuttering [3, 4]. Available literature [5, 6] suggests that 70–80% of variance can be explained by genetic factors. Studies focusing on the environmental factors of psychological development in the onset and maintenance of stuttering are rare [7]. Effective treatment is needed since stuttering is a disorder affecting not only speech fluency but also mental health, social functioning and quality of life, effective treatment is needed [8, 9]. Some researchers suggest using an individualized

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approach for every person who stutters in an attempt to understand the specific set of etiological factors, onset conditions and indications for certain modalities of treatment [10]. Other authors suggest a "smart tailored" approach to adult stuttering – innovative treatments that are adapted for subtypes in adults who stutter [11]. Holistic therapeutic approach addresses speech as well as emotions and attitudes of people who stutter in the social context [12]. Therefore, integrative programs including speech-language pathologists and psychologists, psychiatrisst, psychotherapists may better serve adults who stutter [7, 13]. Some researchers suggest that some people who stutter could benefit from psychological counseling/psychotherapy that focuses on mental health issues associated with stuttering [14-16].

Case report

A 24-year-old girl was monozygotic twin stuttered from early childhood but whose treatment did not start before the age of 24 when speech therapy started. Other female twin did not stutter and has never had this speech disorder. The father of the twins also had the same speech problem in adulthood. Since the presence of genetic factors was evident, the study focused on environmental factors that might be associated with stuttering persistence and the late-onsent of speech therapy. Structured interview based on Berger's list of basic biographic data [17] was applied. The unstructured interview with the patient was focused on the family psychodynamics, her attitudes to the disorder and her family attitudes towards stuttering. The interview with her mother consisted of questions covering biographic data, possible illnesses, family psychodynamics and information related to daughter's stutter and the course of development.

Early psychophysical status showed some physical consequences of childbirth. Upon birth, the patient was significantly bluish, with slightly sprained shoulder and had weaker status after birth compared with her twin sister. Although she had a normal weight for a twin pregnancy (2,850 g), she lost significant weight immediately after delivery (2,200 g) and had slower weight gain in the next few months. She began to walk first, while her sister was the first to talk. At age 7, she had a short period of enuresis.

The twins were born in a complete family and they grew up in an extended family with parents and grandparents in their father's family house. In the preschool period, the patient was more attached to her grandmother, and other family members reinforced this relationship saying she was her grandmother's granddaughter. Members of the father's family also used to emphasize she was "theirs" because of her speech difficulties being similar to her father's. When she was 12 years old, her parents divorced, and the twins continued to live with their mother. The parents' marriage was characterized by emotional distance and a lack of communication, the atmosphere in the home was quiet and cold.

For the first time, the patient became aware of stuttering when she was about 9 years old and her mother took her to a speech therapist. According to her mother, both psychologist and speech therapist concluded that the cause of stuttering was her attempt to imitate her father trying in that way to become closer to him. For her, this was not accepted as a valid cause of stuttering and she stopped treatment after two or three appointments. After the divorce of her parents, her father neglected her in her early teen ages. In this period, stuttering intensified in her father's presence, but with specific relation towards her, which reflected in teasing and insulting jokes about her stuttering. The mother offered very scanty information about her stuttering. The mother's attitude towards her daughter's problem was missing as well as the stuttering (either that of the danghter or her father) was not perceived as a problem or was ignored in general. In the patient's opinion, the family was ashamed of her disorder. When she was about 20 years old, her problems with speech increased. Stuttering was more frequent and she developed strong jaw spasms developed when she tried to pronounce a word. That was the same period when she started to be more frequently in contact with her father. She decided to seek professional help, this time on her own. Realizing that she had a speech disorder that needed treatment a long time ago and that she would have to be in therapy for a long period of time, was very distressing for her. Because of that and the limited success od speech therapy, the patient decided to see a psychotherapist too.

The patient was referred to a psychiatrist and psychologist. After a clinical interview, and psychological exploration, it was concluded that psychiatric treatment was not indicated. Psychological exploration showed that what stood out about patient was above all her relationship with and toward people. She easily established and maintained harmonic relationships by being pleasant, warm and well-intentioned. Good self control and a capacity for self-management helped her achieve her goals and tasks easily. However, the patient had a tendency to worry too much and to perceive problems bigger than they objectively were. She easily became anxious and put up with more than other people would in her circumstances. She rarely got mad which contributed to her harmonious relationships. On the other hand the absence of rage as a result of its inhibition potentiated her anxiety. Excessive rage inhibition was likely a possibility because she cared deeply about good relations and acceptance by others, frequently at the cost of her own needs. She was at risk of being over-defensive concerning other unpleasant emotions since it was of the utmost importance for her to be happy, satisfied and well accepted.

Discussion

We described a case of a 24-years-old monozygotic twin girl who has been stuttering since early childhood, while her twin sister has never exhibited a speech disorder. Given that age is one of the strongest risk factors of stuttering, it is important to emphasize that this study examined a later beginning of stuttering. Although the disorder begins in a wide range of ages, results of research so far show that in about 65% the stuttering poeple appears

before the age of 3, and even in 85% until the age of 3.5. Children older than 4 are faced with a relatively smaller risk of stuttering. Since the role of genetic factors was evident (father stuttered too), the focus of this report was on environmental factors of psychological development, as well as family psychodynamics.

The function of the stutter maintenance could be to bring her closer to her father and her father's family (grandmother). Although more accepted by the father's family because of her stutter, she was at the same time additionally humiliated by her father because of it. In her overall development, the patient has shown a strong orientation towards social relations. This is contrary to studies [18, 19] that show that people who stutter, especially those whose stutter is a long-standing problem (as it was with our examinee), are socially withdrawn and develop social anxiety. Our patient was very expressive and therefore received the encouragement she needed so much in the interaction with her environment. Like a more vulnerable twin but at the same time strongly oriented to relations with others, the patient developed social relationships that were compensation for her deficit and protected her from rejection as a weaker twin. More oriented towards others and at the same time attached to her grandmother as the source of emotional security, she was exposed to greater pressure to position herself as the one who belongs to her father's family comparing with her twin sister too. Therefore, she was under greater risk to adopt her father's symptom, which was stuttering, than her sister was.

The maintenance of stuttering as well as treatment avoidance has enabled patient, as well as her family, to deny the symptoms. This has notably lowered the possibility of a successful overcoming of the stutter [20]. Namely, as several studies show [2, 20–23], children can successfully overcome stuttering in a high degree (70%–87%), while the lack of treatment with age carries a risk, where that the stuttering can become a permanent speech disorder. Her family members favored and ridiculed her stuttering at the same time. The father's stuttering was never treated as a disability, this the same attitude was kept toward the patient's condition. This attitude was equally shared by her mother, which altogether resulted in the negligence of the need for professional help. On a personal level, the patient denied her symptom as well. In the case of our patient, it is the lack of treatment of stuttering in early childhood. It is noticeable that she did not start to painfully realize her speech disorder before her early twenties. Her compensatory mechanisms which kept her social relations at the high level, as well as her tendency to suppress unpleasant emotions started to weaken with the intensification of her symptomatology. Our findings on the examinee are in linethe with research that shows that persons who stutter, compared to the control group, have elevated neuroticism, which is characterized by anxiety, emotional instability, stress vulnerability [24].

The same research shows that these individuals have an elevated level of agreeableness – they are kinder, warmer, and more thoughtful, which are tendencies that characterize our examinee. The existence of these tendencies, particularly expressed in our examinee, can explain the absence of her social anxiety and social isolation. Although her symptoms maintained at the same level for years, they began to worsen in the period in which she started to have more frequent contact with her father. This was at the same time of actualization of her early experiences and confrontation with her father's essential negligence and harassment. This probably resulted with the release of hostile emotions, which could explain her initiative to meet with a psychologist. The fact that the worsening of her speech problem symptoms incited her to seek help implied that she had a good internal motivation. However, the unfavorable conditions of her psychological development, as well as the family's psychodynamics concerning her stuttering resulted in speech therapy being not enough for the symptoms overcoming. Adequate treatment for a patient's stuttering must include psychotherapy, as well as speech therapy, since clear indications for psychotherapy have been determined. Recommended focus in psychotherapy would be to gain insight into the meaning of her symptoms and their denial, which would lead to a clearer self-perception and the development of more authentic relationships, above all with her father.

Conclusion

This case report detected, besides evident genetic factors, clear environmental factors concerning psychological development and family psychodynamics which could explain the onset and maintenance of stuttering. Same factors were responsible for the long-term problem denial and the treatment starting at the age of 24. It is reasonable to suppose that psychotherapy as a part of integrative treatment and focused to gain insight into the meaning of symptoms could be beneficial in treatment of speech disorder.

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