CASE REPORT

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HYPERGLYCAEMIC DISSOCIATIVE FUGUE IN AN ELDERLY-A RARE CASE REPORT

YAŞLI BİR İNSANDA HİPERGLİSEMİK DİSOSİYARİF FÜG – NADİR GÖRÜLEN BİR OLGU SUNUMU

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Abstract

Inadequate control of diabetes may impair cognitive function, but there is no report of dissociative symptoms. Here we are reporting a case of repeated dissociative fugue associated with hyperglycaemic, in

Keywords: Hyperglycaemia, Dissociative fugue

Özet

Yeteri kadar kontrol edilmeyen diyabet bilişsel işlevlere zarar verebilir, fakat çözülmeli belirtilerle ilgili herhangi bir rapor bulunmamaktadır. Biz bu raporda, ikinci tip diyabeti olan yaşlı bir hastadaki hiperglisemi bağlantılı tekrar eden bir disosiyatif füg vakası sunacağız. Muhtemel nörobiyolojik mekanizmaların üzerinde de durulacaktır.

Anahtar Kelimeler: Hiperglisemi, Disosiyatif füg

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1. Introduction

The prevalence of functional dissociative disorder is about 0.2% (Sharon, 2010). Organic dissociative syndrome is reported with use of medications, drugs of abuse and medical illnesses (Slater, 1965; Good, 1993). Inadequate control of diabetes may cause cognitive impairment, but so far there is no report of dissociative symptoms (Good, 1993). In a case report dissociative syndrome was observed in a non-diabetic hypoglycaemic patient (Ramli et al., 2009). Here we are reporting a case of hyperglycaemic dissociative fugue in an elderly patient with type II diabetes mellitus.

2. Case Report

Index patient, Mr KS, 73 years old, Hindu married male of urban background, was referred from department of medicine. For last one year, he had more than ten episodes of travelling away from home without any reason. The Episode would last for a few hours when he interact normally with others, but do not recognise familiar people and behave like a stranger but do not misbehave. He would not reveal his identity, but takes care of himself. Once the episode is over, he would realise that he is away from home and could not ascertain the reason and other details of travel. Because of these episodes, family members were worried about his safety and did not allow him to go out of home alone. After each episode, he consulted his physician when examination did not reveal any abnormality, except for random blood sugar level between 300-375 mg/dl. Type II diabetes was detected three years back and he was on tablet Metformin 500 mg before breakfast & diet control, and blood sugar level were in normal range. Each time physician tried to readjust the dose, but due to hypoglycaemic symptoms dose reverted to the previous dose (Metformin 500 mg). For initial two years of his illness the compliance was good, but later he would miss the dose. In the last visit physician discovered that such episode occurred following missing the dose of medication. He was then advised for psychiatric evaluation. There was no history of epilepsy, other physical illness, severe traumatic life event or abuse, memory loss apart except for the episodes, use of other medication, substance use or any other psychiatric disorder at the time of presentation or in the past.

Physical examination revealed thin build, BP 126/86 mmHg; pulse 80/min. Systemic examination, including fundoscopy did not reveal any abnormality. Random blood sugar was 364 mg/dl, and haemoglobin A1c was 5%. Other investigations such as blood urea, serum creatinine, liver function test, lipid profile were within normal range. Detailed mental status examination and psychological evaluation of memory, executive function and intellectual function did not reveal any abnormality. The patient was concerned about these episodes as family member were worried about him. As per the International Classification of Mental and Behavioural Disorders, 10th version, a diagnosis of organic dissociative disorder was made. Since episodes were following the missing dose, counselling was done for possibility of occurrence of such

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episode if patient missed the anti-diabetic medication, nature of illness, the need for compliance & control of diabetes and possible consequences of uncontrolled diabetes. The family member was also explained about safety issues that may arise during episodes, the possibility of occurrence of such episode if patient missed the antidiabetic medication and advised to supervise medication intake if necessary. Patient compliance improved and no further episodes were reported.

3. Discussion

This case report highlights the role of hyperglycaemia in a dissociative syndrome that may be overlooked by physicians, until it results in significant consequences. Traditionally dissociation is considered as an escape from overwhelming distress with partial or complete loss of control on voluntary actions or alienation of oneself or external world (Holmes & Brown, 2005). Possible biological factors implicated in pathogenesis include reduced perfusion in inferior prefrontal and anterior temporal regions in the right hemisphere and abnormal functioning of the Hypothalamo-Pituitary-Adrenal dysfunction, Glutamate/N-Methyl-D-Aspartate (NMDA) receptor, Serotonin (5-HT2a, 5-HT2c), Gama-Amino Butyric Acid (GABA), and Opioid receptors (Somer, 1964; Winnock 2002).

Though diabetes may impair attention, speed of information processing, motor skills, working memory, the mechanism involved in the occurrence of dissociative fugue is unknown (Sommerfield et al., 2004). NMDA receptor that plays important role in cognitive impairment in other disorder (e.g. Alzheimer dementia) appears to play a role in causation of dissociative symptoms. Diabetes can induce NMDA receptor subunit composition resulting in cognitive impairment, and NMDA-receptor antagonists have shown to improves cognitive in over activation (Gardoni et al., 2002; Rammsayer, 2001) On other hand activation of NMDA receptors in the dorsal vagal complex lowers glucose production, and it involved in glucose stimulated insulin secretion from beta cells (Marquard et al., 2014). Role of GABA and 5HT2 is unclear. The activation of GABA (A) receptors decreased insulin secretion and GABA (B) receptor antagonist increase insulin release in islets type 2 diabetic (Taneera et al., 2012) .GABA synthesis is impaired in hyperglycaemic state (Aerts et al., 2001; Winnock 2002). GABA-A antagonism and 5-HT2a/2c agonism can induce dissociative-like symptoms (D'Souza et al., 2006). 5-HT2A receptors are implicated in the molecular mechanisms of anti-diabetic medication (Sarukhanyan & Barkhudaryan 2011). Hyper activation of the HPA axis is also reported in diabetes (Ramli et al., 2009). Thus in isolation or in combination of above pathophysiology, hyperglycaemic state may result in dissociative symptoms.

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