Turkish Journal of Endocrinology and Metabolism, (1999) 4 : 189-191 **CASE REPORT**

Temporary Multiple Cranial Nerve Palsies in a Patient With Type I Diabetes Mellitus •

Serap Semiz* **Fırat Fişenk**** **Sema Akçurin*** **İffet Bircan***

Akdeniz University, Medical School, Antalya Turkey

** Department of Pediatric Endocrinology*

*** Department of Otolaryngology*

Remittent isolated palsy of peripheral or of upper cranial nerves in diabetic patients is well documented, but paralysis of a lower cranial nerve or an isolated branch of any cranial nerve has rarely been reported. In the case described, besides temporary hypoglossal and facial nerve palsies previously, unilateral temporary vocal cord palsy caused by right inferior laryngeal nerve (recurrent) paralysis associated with type 1 diabetes mellitus is presented. Hoarseness and vocal cord palsy of the patient, as in the case of her first admission with other complaints due to other cranial nerve palsies, totally remitted, presumably both owing to improved metabolic control.

Key words: Cranial nerve palsies, vocal cord palsy, type 1 diabetes mellitus

• *Presented at the III. National Pediatric Endocrinology Congress, Adana, Turkey, October 21-24, 1998.*

Introduction

Neuropathy is one of the chronic complications of diabetes mellitus. Besides hyperglycemia and related metabolic changes, structural and functional disorders due to vascular and hypoxic causes in various parts of the nervous system are the mechanisms responsible for diabetic neuropathy (1). Not only patients with peripheral nerve involvement, but also patients with isolated upper cranial nerve paralysis in diabetes are frequently reported (2-6). The majority of cranial neuropathies affect the 3rd, 6th and 7th cranial nerves while the 4th cranial nerve is rarely affected alone (3, 6, 7). Reports related to inferior laryngeal nerve paralysis are extremely rare (2, 8-10). There is no report in the literature related to hypoglossal nerve paralysis in diabetic patients. In this article, the case of a diabetic patient with temporary hypoglossal, facial and recurrent nerve palsies which improved completely, presumably due to good metabolic control, has been presented.

Case Report

A 7-year-old girl with type 1 diabetes mellitus, who has been followed up for 6 years, was admitted to the hospital with complaints of facial numbness and difficulty in speaking. Right lower facial weakness, straightened nasolabial sulcus, inability to show her teeth on the right side, and rightward deviation of her tongue were detected upon neurological examination. Other neurological

Correspondence address:

Serap Semiz
Yeşilbahçe Mah. 1462 Sok.
Ali Güney Apt. No: 14/11
Antalya
Phone: 0 242 311 25 19
Fax: 0 242 227 27 27

poor metabolic control of diabetes mellitus. The probable effect of hyperglycemia on neuropathy development and an increase in motor conduction rate following good metabolic control have been reported (13-15). The first step in the treatment of diabetic neuropathy is the regulation of blood glucose (6). The Diabetes Control and Complications Trial (DCCT) demonstrated that IIT delayed or prevented electrophysiological abnormalities associated with diabetic neuropathy (16). In a limited number of cases with vocal cord palsies in the literature, partial or complete recovery within several months has been reported (2, 8, 9). In our case also, following the improvement of metabolic control, complete remission of clinical findings due to 7th and 9th cranial nerve palsies occurred in 3 months, while those due to right inferior laryngeal nerve paralysis remitted in 6 months.

In conclusion, the hoarseness and physical signs of vocal cord palsy of our patient, as on her first admission with other symptoms and signs due to other cranial nerve palsies, including the 9th cranial nerve involvement, which is probably unique in the literature, improved completely, presumably owing to good metabolic control.

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