Gustatory Sweating in a Diabetic End-Stage Renal Disease Patient Maintained on Hemodialysis

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Dear Sir,

Gustatory sweating is an unusual manifestation of abnormal nerve regeneration as a consequence of autonomic neuropathy that was recognized as early as the 18th century by Claude Bernard [1]. It has since been reported in patients suffering from Frey's syndrome (auriculotemporal syndrome), most commonly after head and neck surgery [2]. Gustatory sweating may also occur in association with tic douloureux, cerebellopontine angle meningioma, herpes zoster, metastatic carcinoma, and diabetes mellitus [3-5].

We herein report a diabetic hemodialysis patient suffering from this sweating abnormality. Consideration of this entity in the diabetic patient population is necessary in order to avoid misdiagnosing the manifestation as being due to hypoglycemia, hypotension, or other causes. A 52-year-old white male with a 30-year history of insulin-dependent diabetes mellitus and diabetic end-stage renal disease had been maintained on hemodialysis for 3 years. The patient's diabetic condition has been complicated in the past by retinopathy, ente-roopathy, peripheral neuropathy, and right ophthalmoplegia. He was noted to have occasional episodes of facial and upper body sweating during dialysis. These symptoms were initially thought to be secondary to dialysis-related hypotensive episodes or hypoglycemia. However, blood pressure and plasma glucose levels were consistently within normal limits. Further investigations revealed recurrent symptoms of profuse sweating while eating for the previous 6 months. Sweating began

soon after chewing food, was independent of the quality or quantity of food ingested, and was distributed symmetrically. It started in the forehead and spread to face, scalp, neck, shoulders, and upper parts of the body and was associated with excessive salivation. The patient had lost 7 kg due to his reluctance to eat in an attempt to avoid episodes of what he described as 'trying to eat in a shower'.

Physical examination revealed significant orthostatic hypotension, proliferative retinopathy, right peripheral 6th nerve palsy, sensory deficits in legs and feet, and absent ankle jerk reflexes. Abnormal laboratory findings included a plasma glucose level of 314 mg/dl and a blood hemoglobin A1C value of 12.3 g/dl. Therapy with clonidine at a dosage of 0.1 mg three times a day resulted in a partial relief of the symptoms.

Diabetic gustatory sweating is almost always associated with advanced insulin-dependent diabetes mellitus [6]. Incidence and etiology of this complication are unclear. Anhidrosis is a frequent finding in diabetic patients with severe neuropathy [7], and the compensatory hyperhidrosis of the upper part of the body seen with this condition may be confused with gustatory sweating. Compensatory hyperhidrosis is not inducible by eating. It is widely believed that axonal degeneration with abnormal sprouting of nerve fibers from contiguous axons leads to a bilateral intermingling of parasympathetic and sympathetic neurons, resulting in the occurrence of gustatory sweating [8].

Treatment of this condition has been unsatisfactory. Topical application of glycopyrrolate or aluminum chloride hexahydrate anhidrotic gel may be helpful. Therapy with propantheline bromide or clonidine hydrochloride may alleviate the sweating, but the various side effects of such therapy are a limiting factor during long-term treatment. Gustatory sweating is a rare entity, but can lead to social inconvenience and a poor nutritional intake. Due to its ability to mimic other medical conditions, the diagnosis may be difficult to make if a high index of suspicion is not exercised.

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