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Dysphagia as the First Symptom of Hyperthyroidism without Goiter A Case report

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Introduction

Dysphagia is a common problem in elderly persons. The exact prevalence of dysphagia is not clear, but there are reports that 15% of elderly persons have dysphagia. Common causes of dysphagia were stroke, Parkinson's disease, and esophageal carcinoma. Hyperthyroidism has been reported as a rare cause of dysphagia. The most likely mechanism is an enlarging goiter which causes direct impingement of esophagus. However, only a few case reports presented patients with dysphagia due to acute bulbar palsy with unclear muscle wasting in hyperthyroidism. In this case report, we report a case of dysphagia as the first symptom who was diagnosed as hyperthyroidism and improved dysphagia with anti-thyroid agents and swallowing rehabilitation.

Case report

A 81-year-old man was hospitalized due to recurrent aspiration symptom and cough, sputum for 2 months. He had no specific disease. The vital signs were normal, but intermittent tachycardia was observed. There were no ptosis, ophthalmoplegia and no suspicious symptoms of bulbar palsy such as dysarthria. The neck mass and goiter were not palpated. There were no objective weakness except subjective fatigue. Thyroid function tests showed low level of TSH 0.006 uIU/ml (0.55 - 4.78), and high level of total T3 623.64 ng/dl (60 - 181) and free T4 9.53 ng/dl (0.89 - 1.8). In addition, microsomal Ab increased to 1149.9 U/ml (0 - 60), TSH-receptor-Ab increased to 22.5 IU/L (0 - 1.0) and TS Ab increased to 429.0% (0 - 140). Paraneoplastic antibody was negative. In the first videofluoroscopic swallow study (VFSS), aspiration, oral transit time deterioration, vallecular residue, laryngeal elevation deterioration, pyriform sinus residue and pharyngeal wall coating were observed and measured as penetration-aspiration scale (PAS) 6, videofluoroscopic dysphagia scale (VDS) 39.5. In addition, repeated retching was observed during the examination. The patient was diagnosed with Graves' disease and we started methimazole, propranolol and Lugol solution. The conventional swallowing rehabilitation also provided the patient for 60 minutes a day. After 2 weeks, thyroid function tests showed the improvement as TSH 0.007 uIU/ml, Total T3 194.62 ng/dl, and Free T4 was 1.79 ng/dl. In the second VFSS at 2 week after starting of medication, PAS and VDS were the same as before, but the aspiration disappeared in thick fluid, puree ingestion. Patient started oral feeding with thickener and discharged. Three weeks after, the thyroid function test showed TSH 0.010 uIU/ml, total T3 180.80 ng/dl, and free T4 1.12 ng/dl (Table 1), and dysphagia scales were improved to PAS 2 and VDS 26 in the VFSS (Table 2).

Conclusion

We present an interesting case of a patient who presented with reversible dysphagia caused by Graves' disease without goiter. Especially in the elderly dysphagia patients, we recommend that dysphagia may be the first symptom of hyperthyroidism.

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Table 1. Changes of thyroid function tests

	1st week	2nd week	3rd week
TSH	0.006uIU/ml	0.007uIU/ml	0.010uIU/ml
Total T3	623.64 ng/dl	194.62 ng/dl	180.80 ng/dl
Free T4	9.53 ng/dl	1.79 ng/dl	1.12 ng/dl

Table 1. Changes of thyroid function tests

Table 2. Changes of videofluoroscopic swallow study

	1st week	2nd week	3rd week
Videofluoroscopic dysphagia scale			
Total score	39.5	39.5	26
Oral phase	3	3	0
Lip closure	0	0	0
Bolus formation	0	0	0
Mastication	0	0	0
Apraxia	0	0	0
Tongue to palate contact	0	0	0
Premature bolus loss	0	0	0
Oral transit time	3	3	0
Pharyngeal phase	36.5	35.5	26
Triggering of pharyngeal swallowing	0	0	0
Vallecular residue	2	2	2
Laryngeal elevation	9	9	9
Pyriform sinus residue	4.5	4.5	0
Coating on the pharyngeal wall	9	9	9
Pharyngeal transit time	0	0	0
Aspiration	12	12	6
Penetration-aspiration scale	6	6	2

Table 2. Changes of videofluoroscopic swallow study