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## Influence of an antianxiety drug on hyperemesis diabeticorum.

Soji Okada\*

Yooichiro Miyai<sup>†</sup>

Tadashi Ofuji<sup>‡</sup>

\*Okayama University,

<sup>†</sup>Okayama University,

<sup>‡</sup>Okayama University,

# Influence of an antianxiety drug on hyperemesis diabetorum.\*

Soji Okada, Yooichiro Miyai, and Tadashi Ofuji

## Abstract

The patient was a 37-year-old female teacher with hyperemesis diabetorum and juvenile Type-I diabetes. At the age of 29 years, nausea and vomiting developed and secured at nearly weekly intervals. She was started on clonazepam (15 mg/day). The vomiting was cured and psychological improvement was evident; her anxiety about diabetes was markedly reduced. An X-ray examination after the administration of clonazepam showed that she was entirely free from marked hypoperistalsis and the severe retention of gastric contents which had been present before this treatment. The present case is a clear example of stress closely related to the pathogenesis of hyperemesis diabetorum.

**KEYWORDS:** antianxiety drug, hyperemesis diabetorum

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— BRIEF NOTE —

**INFLUENCE OF AN ANTIANXIETY DRUG ON  
HYPEREMESIS DIABETICORUM**

Soji OKADA, Yooichiro MIYAI and Tadashi OFUJI

*Third Department of Medicine, Okayama University Medical School, Okayama 700, Japan*

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*Abstract.* The patient was a 37-year-old female teacher with hyperemesis diabeticorum and juvenile Type-I diabetes. At the age of 29 years, nausea and vomiting developed and occurred at nearly weekly intervals. She was started on clonazepam (15 mg/day). The vomiting was cured and psychological improvement was evident; her anxiety about diabetes was markedly reduced. An X-ray examination after the administration of clonazepam showed that she was entirely free from marked hypoperistalsis and the severe retention of gastric contents which had been present before this treatment. The present case is a clear example of stress closely related to the pathogenesis of hyperemesis diabeticorum.

*Key words :* antianxiety drug, hyperemesis diabeticorum.

Howland *et al.* (1) argue that stress may play an important role in the pathogenesis of acute gastroparesis diabeticorum. However, there is as yet no convincing explanation of the pathogenesis of chronic gastroparesis diabeticorum including hyperemesis diabeticorum, nor is there any reliable method of treatment available for this pathologic entity.

Antianxiety drugs can lessen stress produced mainly by anxiety (2) on the assumption that stress also plays a major role in the pathogenesis of chronic gastroparesis diabeticorum, we carried out a study to determine if antianxiety drugs are effective in improving the clinical symptoms of hyperemesis diabeticorum with associated stress produced mainly by anxiety.

The patient was a 37-year-old female teacher with juvenile type diabetes which had been controlled with 40 units/day of intermediate type insulin and a restricted diet of 1400 Kcal for the past 15 years.

At the age of about 26, she began to have occasional bouts of nocturnal diarrhea, constipation and vomiting. At age 29, nausea and vomiting were occurring at nearly weekly intervals and continued thereafter at approximately the same regular intervals.

Attacks of vomiting were especially severe at the time when she underwent surgery for a cataract on her right eye (at the age of 30) and immediately after she came home from travel abroad (at 32 years of age), and would not respond to treatment with anticholinergic drugs, cholinergic drugs, vitamins (B<sub>1</sub>, B<sub>12</sub>)

and chlorpromazine (150 mg/day) given for a sufficient period of time.

Under such circumstances she was admitted to hospital for thorough examination and treatment on January 7, 1980.

At the time of her hospitalization she was 160 cm in stature and weighed 46 kg. Her fasting blood glucose was 206 mg/dl; blood sugar was labile, showing gross diurnal fluctuation. Urinary glucose was 31.6 g/day, but there was no detectable ketonuria or proteinuria. General physical examination and blood chemistry were within normal limits. There was an anisocoria with the pupil being larger in the left than in the right eye. The light reflex was sluggish on the left side. Orthostatic hypotension, slightly weakened tendon reflexes, and decreased sensitivity of vibratory sense in the lower extremities were also noted. Retinal findings were classified as Scott Ia in both eyes. The intraocular pressure was within normal limits and there was no papilledema. EEG findings were of borderline type, computed tomographic findings of the brain were within normal limits, and no pathological changes explicative of vomiting such as a brain tumor, were detected. However, stomach X-rays revealed overtly diminished peristaltic movements of the stomach with marked retention of gastric contents. The maximum conduction velocity of the sensory median nerves was 47.6 m/sec (normal control  $63.1 \pm 3.26$  m/sec) and that of the motor median nerves was 48.8 m/sec (normal control  $63.4 \pm 3.00$  m/sec). A study ECG R-R interval variation was 73.2 msec (normal control  $91.25 \pm 12.67$  msec) with a standard variation of 20.6 msec (normal control  $78.2 \pm 33.8$  msec) and a ratio of SD before and during deep breathing of 1.522 (normal control  $2.752 \pm 0.154$ ).

After hospitalization, the patient developed 5 attacks of excessive vomiting at intervals of about 1 week, each lasting for 1 to 2 days. The attacks occurred in the mornings most of the time.

Psychologically, she was compulsive, patient, entirely inhibited in emotional reactions, was taking a gloomy view of the future because of being a diabetic, and was anxious about her health.

On January 30 of the same year she was started on clonazepam, 15 mg per day, with food intake and insulin dosage being held the same as before. With this combined regimen the vomiting ceased. Her blood glucose became stabilized at adequately controlled levels and she gained 14 kg in weight after 4 weeks of treatment. Furthermore, psychological improvement was evident; her anxiety about diabetes was markedly reduced, she changed her attitude toward the disease to positively cope with it and became able to act more energetically setting concrete goals.

Quite interestingly, an X-ray examination done on February 28, 1980, disclosed that the stomach was entirely free of the marked hypoperistalsis and severe retention of gastric contents which had been present on March 15, 1977, and at the time of hospitalization. The stomach now was in a state of normalcy.

The present case is proof that stress is closely related to the pathogenesis of

hyperemesis diabetorum, indicating that the patient became asymptomatic after the stress was relieved.

She was discharged from hospital on February 29, 1980, and has since been living a serene, but active, life.

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