CASE HISTORY AND PHYSICAL EXAMINATION: A 24-year-old man with type 1 diabetes, nonresponding to standard treatment for severe gastroparesis, was admitted to hospital due to persisting nausea and vomiting. Further known complications included diabetic retinopathy, diabetic nephropathy with mild renal impairment, diabetic peripheral and cardiac autonomic neuropathy, and arterial hypertension.

EXAMINATIONS: Gastric motility parameters were evaluated by functional scintigraphy. Gastric emptying was severely delayed showing first appearance of food in duodenum after 25 min. After 60 min, technetium activity in the stomach was still detected in considerable amounts. The 50% emptying time was 58 min (normal time 10-20 min). A detailed symptom score for gastroparesis, prospectively investigated by a standardized patient diary, showed a severe and complex clinical disturbance: the frequency of daily attacks of impulsive vomiting ranged from 2 to 21 and the mean daily duration of nausea was 7.5 h. A value of 3.4 on the scale for a premature feeling of satiety (range 0-4, normal=0) was determined, as well as scores of 2.5 for symptoms of abdominal bloating (range 0-3, normal=0) and 3.7 for general well-being (range 0-4, normal=0).

COURSE OF DISEASE AND TREATMENT: Pharmacological interventions with antibiotics, prokinetics, antiemetics and, as a second step, percutaneous
gastrostomy (first intervention) and jejunostomy (second intervention) were not long-term effective in reducing the clinical symptoms described above. Therefore, a single intrapyloric injection with 100 U of botulinum toxin was performed leading to a prompt and significant improvement of symptoms and an adequate oral nutrient intake the day after the procedure. Determined by gastric scintigraphy 1 week later, this led to a significant reduction of the 50% emptying time (36 min) and to an improvement of the symptom score for gastroparesis as determined 4 weeks later: frequency of daily attacks of impulsive vomiting ranged from 0 to 1, mean daily duration of nausea was 1 h, premature feeling of satiety (score 1.9), symptoms of abdominal bloating (1.1), and general well-being (2.1). The beneficial effect of the botulinum toxin injection was unchanged over 3 months, slightly diminishing by 4.5 months. After a second round of botulinum toxin injection, again, prompt relief of most of the symptoms was achieved. Percutaneous jejunostomy was then revised. CONCLUSION: Intrapyloric injection of botulinum toxin is effective in improving the complex symptoms and clinical syndrome associated with diabetic gastroparesis resistant to conventional treatment. Upon waning of the therapeutic effect over time, the procedure can be repeated with success.