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Gastric peroral endoscopic pyloromyotomy for the treatment of congenital hypertrophic pyloric stricture in an infant with a self-made bite block

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Dear Editor,

Gastric per-oral endoscopic myotomy (G-POEM) is reported to be a promising treatment for refractory gastroparesis [1], and it is also an effective treatment for congenital hypertrophic pyloric stenosis (CHPS). Here, we report a case in which G-POEM was performed in an infant with CHPS.

A 27-day-old infant was hospitalized with progressive forceful vomiting after breast-feeding. Transabdominal ultrasound showed a thickened pyloric muscle, and upper gastrointestinal contrast also showed narrowing of the pylorus. The patient was therefore diagnosed as CHPS. As he was complicated with pneumonia, he received treatments for pneumonia and nutrition for 18 days, and it was suitable to perform G-POEM. The infant’s mouth was very small, and we made a bite block using the tube of a 20 ml syringe (Figure A). G-POEM was performed under general anesthesia by tracheal intubation. Gastroscopy showed stenosis of the pylorus, even a nasogastroscope (diameter 5.4 mm) could hardly pass through it (Figure B), then the mucosa of the gastric antrum anterior wall was cut; a tunnel was established towards the pylorus, and full-thickness incision to the pyloric stenosis ring in the muscularis was performed (Figure C); after the incision, the pyloric opening got larged (Figure D) and the nasogastroscope could pass through it freely; finally the tunnel opening was closed with clips (Figure E). Abdominocentesis was performed through the McBurney’s point to release the pneumoperitoneum. A nasojejunum nutrition tube was also inserted to give enteral nutrition.

Three days later, upper gastrointestinal contrast showed normal flow. Six days later, the enteral nutrition tube was removed and the infant was discharged from the hospital. The patient recovered well without any complications, and no vomiting occurred. Two months after the discharge, he had an increase of 7.0 kg in body weight.

Laparoscopic or open pyloromyotomy is the traditional standard treatment for CHPS [2]. However, the infants have a lower tolerance of surgery and recover slowly. Liu et al. reported the first application of G-POEM in an infant with CHPS [3], indicating that G-POEM was a minimally invasive, and effective alternative for CHPS. G-POEM is challenging in infants, and in this case, we made a special bite block for the infant,
so that it could fit his mouth well. We reported the successfully use of G-POEM in an infant with CHPS. However, the extent of the myotomy, the location and direction of the tunnel, and the necessity of multiple tunnels need further exploration.

Disclosures
The authors have no conflicts of interest to disclose.

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References
Fig. 1. *The self-made bite block by using a 20 ml syringe*