Editorial

Endoscopic and laparoscopic treatment of infantile hypertrophic pyloric stenosis

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Infantile hypertrophic pyloric stenosis (IHPS) is a condition involving abnormal muscular hypertrophy at the pylorus. This causes vomiting and may call for surgical intervention.[1] Pyloromyotomy, introduced in both 1908[2,3] and 1912[4] and still first choice as treatment, is a definitive, curative surgical procedure for IHPS, whether open or minimally invasive. Complication rates are generally low, and mortalities are rare. However, Ramsted's extramucosal pyloromyotomy[4] is not complication-free. In 5% of patients, complications are severe.[5] Thus, a search for alternatives is certainly in order.

Other treatment options are available for these patients. Reported outcomes of surgery versus nutritional therapy in this setting[6] indicate that nutritional intervention is a viable approach. Clinical results appear encouraging, regardless of a 25% failure rate. Although more prolonged, treatment is administered largely via supervised outpatient programs, with a substantial reduction in cost (less than one-third of surgical remedy).[6]

In terms of applicable medical agents, a past investigation of methyl scopolamine nitrate is on record (1955),[7] in addition to a more recent trial of intravenous atropine sulfate (1996).[8] Furthermore, a meta-analysis assessing course and outcome of IHPS managed with atropine[9] supports the premise that either oral or intravenous atropine (1-2 months) is satisfactory as an alternative to pyloromyotomy, particularly if surgery is contraindicated. Nevertheless, this approach is not widely practiced, the current gold standard treatment for IHPS being surgery.

Data on nonsurgical pyloric dilatation in children is also sparse, given the limited success of balloon catheter dilatation as primary treatment of IHPS.[10] On the other hand, endoscopic pyloric balloon dilatation, done in young infants experiencing persistent emesis and gastric outlet obstruction >3weeks post-pyloromyotomy for IPHS, has been promoted as an effective, safe, and less expensive method than repeat surgery.[11] An isolated success in fluoroscopic pyloric balloon dilatation has similarly prompted a call for further study as first-line remedy after such treatment failures.[12]

In 2005, a new laparoscopic technique was described, entailing two incisions of pylorus along antimesenteric border, extending from antrum to duodenal bulb. The latter are made sufficiently deep to expose longitudinal muscle. An endoscope is then passed through pylorus to duodenum.[13] Initial results seem impressive, but long-term outcomes and multicenter experience are lacking.[14] Ostensibly, a combined strategy of balloon dilatation and laparoscopic release of serosa (atop hypertrophic pyloric muscle) may then constitute the optimal operative intervention in IHPS, aided by X-ray visualization to disclose of any subsequent pyloric leakage. Allowing serosa to remain intact could explain why intraluminal balloon dilatation as sole treatment is non-curative. Considering all therapeutic alternatives that exist, it does appear that rigid adherence to a single method of treating IHPS is simply unjustified.

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Conflict of interest

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