How I Do It?

Laparoscopic Pyloromyotomy Using an Indigenous Endoknife

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Laparoscopic pyloromyotomy is a well recognised procedure for infantile hypertrophic pyloric stenosis (IHPS). The authors present a new technique of using an indigenous endoknife for laparoscopic pyloromyotomy. This technique has been used successfully in ten infants and is safe and effective.

Key words : Laparoscopy, pyloromyotomy, endoknife.

Procedure

Ten children with clinically proven IHPS were included in the study. All patients were adequately resuscitated to normalise the serum electrolytes and blood gases prior to the procedure.

Pneumoperitoneum is created using Veres needle and a 3mm umbilical port inserted for the 0° degree 3mm telescope. Two other 3mm trocars are then placed in the right and left upper quadrant as working ports. The surgeon stands to the left and the monitor is placed above the right shoulder of the patient.

The indigenous endoknife is made by cutting the tip of a No 11 or 15 blades and placing it into the jaws of the laparoscopic needle holder. (Figs 1, 2). The pylorus is stabilised with a Babcock forceps or grasper placed through the right upper quadrant trocar. The left trocar is advanced near the pylorus and the endoknife is introduced under vision. A seromuscular incision is placed on the antrosuperior surface of the pyloric tumor. The incision is kept deep enough to accommodate the dissecting forceps. The hypertrophied muscle fibers are spread out slowly and gently using Maryland dissecting forceps until the bulge of mucosa is seen through out the incision. One or two ml saline is poured through the left trocar over the pyloromyotomy incision. Air is then injected through the feeding tube placed into the stomach to rule out any inadvertent mucosal perforation. The feeding tube is removed postoperatively and the child is allowed to feed after 4 hours. Patients are

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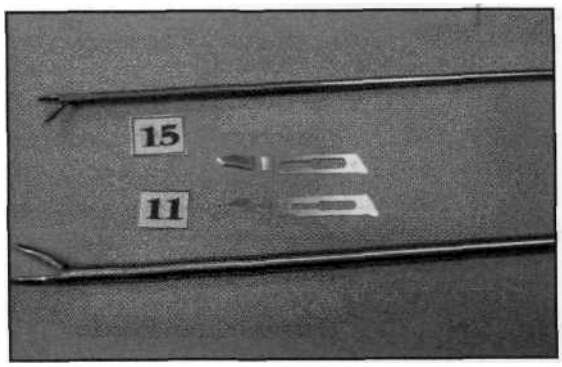

Fig 1 : Picture showing the cut ends of No 11 and 15 knife blades

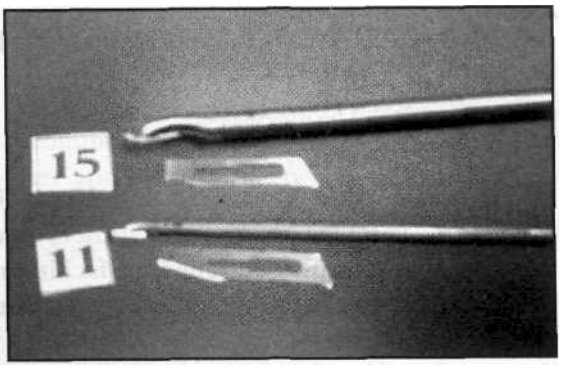

Fig 2 : Picture of the indigenous endoknife

discharged once the feeding was established. Postoperative follow-up is done 6 weeks and 6 months after discharge.

Results

All 10 children had a successful pyloromyotomy using the indigenous endoknife. The operating time was 30 minutes. There were no technical failures, perioperative or postoperative complications. All patients were asymptomatic and gaining weight in follow up. Cosmetic results were excellent.

Discussion

Report from literature show laparoscopic pyloromyotomy to be a safe option for management of hypetrophic pyloric stenosis.[1,2] The authors have earlier described their initial experience of laparoscopic pyloromyotomy using laparoscopic endotome.[3] However the endotome is a specialised instrument with limited usage and maintenance costs. The endoknife on the other hand can be made from a basic pediatric laparoscopic kit. With the endoknife, we found the cutting of the pyloric muscle mass to be precise, sharper and easier. This is because the endoknife facilitates the use of a fresh blade for every operation. The authors suggest following precautions to prevent the blade from dropping in the abdomen :

(1) The needle holder must be of a good quality, and its blade holding strength should be checked before insertion. (2) The left trocar should be valve less. With a valve trocar, there is a possibility of the blade getting trapped into the valve.

The drawing in of the left trocar near the pylorus before introducing the endoknife under vision decreases the chances of injury to any other viscera. It is also safe to start incising the pyloric tumor in the central part where the muscle is thickest and then extend the incision on either side. The overall results of this technique are encouraging.

References

[1] Alain JL, Grousseau D, Terrier G. Exttamucosal pylormyotomy by laparoscopy. J Pediatr Surg 1991; 26:1191-1192.

[2] Tan HL, Najmaldin A. Laparoscopic pyloro myotomy for infantile hypertrophic pyloric stenosis. Pediatr Surg Int 1993; 8:376-378.

[3] Shah AA, Shah AV. Laparoscopic Pyloromyotomy for Infantile Hypertrophic pyloric stenosis—A study of 10 cases. J Indian Assoc Pediatr Surg 2002; Vol 7:145-146.