

SURGICAL MANAGEMENT OF INFANTILE HYPERTROPHIC PYLORIC STENOSIS IN A DISTRICT HOSPITAL

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ABSTRACT

Background: Infantile hypertrophic pyloric stenosis is a common surgical condition with well-recognized clinical features. Diagnosis is usually straight forward and Ramstedt's pyloromyotomy is curative. This study was conducted to see the output of surgery for infantile Hypertrophic pyloric stenosis by general surgeons at district hospital level.

Material & Methods: It was an experimental study conducted at surgical unit, DHQ Teaching Hospital, D.I.Khan from June 2003 to June 2008. Thirty four patients presenting to surgical ward with non-bilious projectile vomiting and a palpable pyloric tumour on examination, referring to the diagnosis of infantile hypertrophic pyloric stenosis were analyzed. The diagnosis was confirmed on ultrasonography. Patients with concomitant congenital anomalies were excluded.

Results: The mean age was 4 months with male to female ratio of 4.7:1. All the patients underwent pyloromyotomy. Regarding post-operative complications; 2.94% of patients had wound infection, 14.70% oral thrush and 20.58% had vomiting. All these complications responded well to conservative treatment.

Conclusions: The treatment of infantile hypertrophic pyloric stenosis may be performed in district hospitals with results comparable to those in specialized centers.

Key words: Infantile hypertrophic pyloric stenosis, Gastric outlet obstruction, Ramstedt's pyloromyotomy.

INTRODUCTION

Infantile hypertrophic pyloric stenosis (IHPS) is a common cause of gastric outlet obstruction and is the most common condition requiring surgery in the newborn.¹ This condition arises from marked hypertrophy of pyloric muscles, primarily circular layer, resulting in partial or complete luminal obstruction. The incidence is 1 to 3 of every 1000 live births.² Most babies present between the age of 2 to 8 weeks.³ The peak age of presentation is six weeks.⁴ It has male to female ratio 4:1.⁵

IHPS presents with non-bilious, projectile vomiting resulting in dehydration, weight loss, and severe electrolytes abnormalities characterized by hypokalaemia.

Abdominal ultrasound is the most sensitive test for its diagnosis and should be performed.⁶ The management consists of careful rehydration and electrolyte correction followed by surgical pyloromyotomy. The operative approaches can vary between the typical right upper quadrant, supra-umbilical and laparoscopic routes.^{7,8}

This study was conducted to see the output of surgery for infantile Hypertrophic pyloric stenosis by general surgeons at district hospital level.

MATERIAL AND METHOD

This Experimental study was conducted in the surgical unit from June 2003 to June 2008. All the babies with non-bilious projectile vomiting and a pyloric tumour (palpable olive) on clinical examination were included in the study. The babies were given test feed and visible peristalsis observed in all the cases. The diagnosis was confirmed by ultrasonography (USG). Most of the cases were referred by pediatricians. The babies with concomitant congenital anomalies were excluded from the study. Each patient was first resuscitated and correction of fluid and electrolyte balance was done. The operations were performed as elective surgery.

In all the cases, general anaesthesia was given by a consultant anaesthetist. We performed the standard pyloromyotomy by Ramstedt's procedure.

The approach in all the cases was through right upper quadrant transverse incision. The thickened pylorus was delivered in to the wound and incision given on the serosa of pylorus starting from the gastric side to the pyloro-duodenal junction. The muscles were separated by blunt end of scalpel, taking extreme care to avoid injury to the pyloro-duodenal junction which is the most vulnerable part where perforation can occur. Haemostasis was secured by careful cauterization.

All the cases were shifted to the pediatric unit for post operative care. Oral feeding was started on the next day. Follow up was done by examination of the patients monthly in OPD for 6 months.

RESULTS

In this study, 34 patients with IHPS were included. Out of these, 28 were males (82.35%) and 6 females (17.64%) with male to female ratio of



Fig 1: Ultrasonographic pictures showing the dimensions of a hypertrophic pylorus.



Fig 2: Showing peri-operative pictures of infantile hypertrophic pyloric stenosis.

4.7:1. The age ranged from 2 to 11 months with an average of 4 months. All patients were breastfed. All cases were having pyloric tumor (palpable olive) at presentation. The diagnosis was confirmed by ultrasound in all the cases. All patients underwent pyloromyotomy.

Regarding postoperative complications; 1 patient had wound infection (2.94%), 5 patients had oral thrush (14.70%) and vomiting was observed in 7 patients (20.58%). All these patients responded well to conservative treatment. All the patients were followed up for 6 months with no need of re-operation.

DISCUSSION

IHPS has been successfully treated for decades with Ramstedt's extramucosal pyloromyotomy which clearly stands as gold standard treatment against which all other techniques must be compared. So highly effective is this simple, elegant and inexpensive operation that it has been described as one of the most easy and gratifying procedure performed by the pediatric surgeons⁹ and the most consistently successful operation ever described.¹⁰

The diagnosis of IHPS was confirmed on ultrasonography in all the cases. The sensitivity of this non invasive test is 90-100%.¹¹

The frequency of post-operative vomiting in this series (20.58%) is lower than the 65-90% reported by some authors.¹¹⁻¹³ It is mentioned in the literature that this complication should resolve spontaneously with time and only rarely is due to inadequate splitting of muscle fibers necessitating re-operation.¹⁴ Similarly in our series this complication of post-operative vomiting resolved within 48 hours.

There was one wound infection (2.94%) in this series. It is consistent with that published in the literature where rates of 0.3-9% have been reported.¹⁵

CONCLUSION

The treatment of IHPS may be performed in the District Hospital by general surgeons. Complications are few and within the ranges comparable to published work from the literature by specialized centers.

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