

A Study of Modes of Presentation And Management of Meckel's Diverticulum-Our Experience



Medical Science

KEYWORDS : Meckel's Diverticulum; Intestinal obstruction ; congenital anomaly; antimesenteric border

* Dr.RAJU BAKKA	Associate Professor of Surgery,Osmania General Hospital, Hyderabad * CORRESPONDING AUTHOR
Dr.ASHOK CHINTAMANI	UPGRADED DEPARTMENT OF GENERAL SURGERY OSMANIA GENERAL HOSPITAL HYDERABAD 500095 TELANGANA STATE INDIA.
Dr.SANTHI VARDHINI.G	UPGRADED DEPARTMENT OF GENERAL SURGERY OSMANIA GENERAL HOSPITAL HYDERABAD 500095 TELANGANA STATE INDIA.
Dr.SAMYUKTHA KATHIRISETTY	UPGRADED DEPARTMENT OF GENERAL SURGERY OSMANIA GENERAL HOSPITAL HYDERABAD 500095 TELANGANA STATE INDIA.

ABSTRACT

Meckel's Diverticulum is the most common congenital abnormality of the gastrointestinal tract. It is the most frequently encountered Diverticulum of the small intestine. It is an uncommon clinical disorder, only a high index of suspicion leads to proper diagnosis by use of radiologic studies. This study is to know the various modes of presentation and management of Meckel's Diverticulum

INTRODUCTION

Meckel's Diverticulum occurs in the terminal ileum 45-90cm proximal to the ileocaecal valve. It is a true Diverticulum since it contains all layers of intestinal wall in contrast to most of the intestinal diverticula. Meckel's Diverticulum occurs at the antimesenteric border whereas others occur at the mesenteric border of the intestine. It varies in length and diameter from 1-10cm. In autopsy studies, the incidence of Meckel's Diverticulum is 0.3% but may be placed as high as 2% when surgical cases are reviewed. In most of the cases, Meckel's Diverticulum is an incidental finding at postmortem or at laparotomy.

MATERIALS AND METHODS

In our study 18 cases of Meckel's Diverticulum which were admitted in Osmania General Hospital during July 2014 – April 2016 were studied and the modes of presentation were highlighted. All the cases were subjected to exploratory laparotomy and the findings of Meckel's Diverticulum were confirmed. All the Meckel's Diverticulum which were resected, were sent for Histopathological examination for the presence of heterotopic mucosa.

DISCUSSION AND ANALYSIS:-

Out of 3248 emergency surgeries which were operated for acute abdomen done in 2 years, there were 18 cases of Meckel's Diverticulum which were managed.

AGE INCIDENCE:

The youngest patient in our series was 21 days neonate. The oldest patient was 60 years old.

Age Group	No. of Patients	Our Series
0 – 10	4	22%
11 – 20	7	38.8%
21 – 30	3	16.6%
31 – 40	1	5.5%
41 – 50	2	11.11%
51 – 60	1	5.5%

SEX INCIDENCE:

The incidence of Meckel's Diverticulum was more in males compared to females in this series: 16 out of 18 cases were males.

Sex	No. of Patients	Our Series	Arnold & Pellican
Male	16	88.8%	58%
Female	2	11.1%	42%

SOCIOECONOMIC GROUP:

Most cases were amongst the low socioeconomic group.

ASSOCIATED CONGENITAL ANOMALIES:

Although Simms and Corkery (1980) reported that there were associated congenital anomalies such as examphalos, esophageal atresia, anorectal atresia, etc. In our series none of the cases of Meckel's Diverticulum had any congenital anomaly.

SYMPTOMS:

Symptoms	No. of Patients	Our Series	Ruiz orrego et al series
Pain Abdomen	16	88.8%	68.4%
Vomiting	3	72.2%	68.4%
Distension	7	38.8%	39.4%
Constipation	7	38.8%	39.4%
Fever	6	33.3%	47.3%

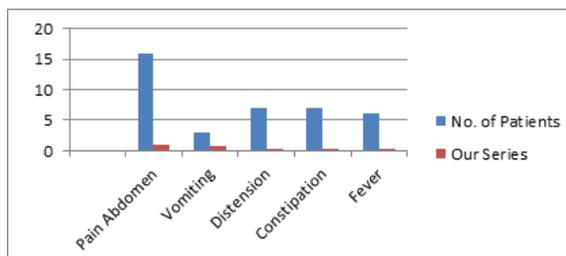
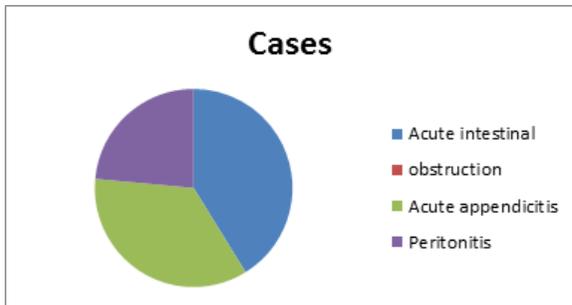


Fig:1 symptoms of Meckel's Diverticulum
MODES OF PRESENTATION:

Meckel's Diverticulum usually present with complications. Although Meckel's Diverticulum may produce intestinal obstruction or perforation simulating appendicitis, hemorrhage is its most important clinical presentation (Mariano et al, 1997). In our series, we found acute intestinal obstruction, acute appendicitis and peritonitis were the modes of presentation of which intestinal obstruction is the most common presentation. The cause of intestinal obstruction is patent persistent vitello intestinal duct as reviewed in the literature.

	Cases	Our Series	Ruiz orrego series
Acute intestinal obstruction	7	38.8%	47.4%
Acute appendicitis	6	33.3%	19.7%
Peritonitis	4	22.2%	14.5%



DIAGNOSTIC STUDIES

1. Plain X ray abdomen
2. Barium contrast studies
3. Scintigraphic studies
4. Angiographic studies
5. Ultrasound
6. Colonoscopy
7. Diagnostic laparoscopy
8. Small bowel endoscopy
9. Video capsule endoscopy

LAPAROTOMY FINDINGS

All the patients were subjected to emergency laparotomy. Meckel's diverticulum was found to be pathological, necessitating resection in 16 cases, 2 cases were left alone.

There were also pathological findings along with Meckel's diverticulum. The findings on laparotomy can be broadly divided into.

- I. Meckel's diverticulum pathology 16 cases
- II. Bowel perforation 2 cases
- III. Appendicitis 3 cases
- IV. Bands /Adhesions 5 cases
- V. Intussusceptions 2 cases

The factors which necessitated resection of Meckel's diverticulum in our study were:

- 1. Diverticulitis 6
- 2. Bands 5
- 3. Narrow base 4
- 4. Adhesion/ Kinking 2
- 5. Intussusceptions 2
- 6. Twisting 1
- 7. Perforation 1
- 8. Volvulus 1



Meckel's Diverticulum

The factors which necessitated resection in incidental Meckel's Diverticulum (uncomplicated) were:

- Narrow base 4 cases
- Induration 1 case
- Band 1 case

	Our series	Kasha et al 1995 UK
No. of cases	18 cases	
Resection done	16 cases (88%)	
Incidental MD	7 cases(38.8%)	21 cases (48.8%)
a) Resection done	5 cases (71%)	13 cases (61.9%)
b) Left alone	2 cases (28.5%)	8 cases (38.6%)

TREATMENT:

Procedure	Our series 18 cases	Arnold et al 1997-58 cases
Total resections	16 cases(88.8%)	45 cases(77.5%)
Wedge resection	9 cases(56.25%)	71%
Resection & EEA	7 cases (43.25%)	28%

COMPLICATIONS

1. Hemorrhage
2. Perforation
3. Intestinal obstruction
4. Fistula, cyst and granuloma.

CONCLUSIONS: From our study it is observed that

1. Meckel's Diverticulum represented 0.56% of all the cases presented to the emergency general surgery and pediatric surgery in our series.
2. The maximum cases were found to be in the 11-20years age group.
3. There was male preponderance.
4. abdomen is the most common presenting symptom in 88.8% of cases.
5. No associated congenital anomaly was found in our series.
6. Plain X-ray abdomen in erect posture was the diagnostic aid cases of intestinal obstruction.
7. At laparotomy, intestinal obstruction was mainly due to the presence of bands in our series.
8. The average size of Meckel's Diverticulum was 5 cm and average distance from IC Junction was 56 cm.
9. The average hospital stay was 11 days
10. On histopathological examination, diverticulitis was

conformed in 6 cases and two cases had ectopic gastric mucosa in our series.

11. Patients were followed for 8 months period.
12. No significant morbidity has occurred in our series.
13. Mortality was nil in our series.

References:

1. Arnold JF Pellicane JV Meckel's diverticulum: a ten year experience am.surgeon 63(4):354-5 Apr.1997.
2. Ruiz Orrego et al Clinical characteristics of Meckel's diverticulum 15 (3):247-54, 1995 Dec.
3. Attwood SE Laparoscopic approach to Meckel's diverticulum Br.J.Surg 1992 March, 79(3)1/4 211
4. Schwartz Principles of Surg 9 th edn.2010
5. Bemelman WA et Al Meckel's diverticulum in Amsterdam W.J.Surg 19 (5): 734-6, 1995 sep-Oct.
6. Rodney Maingot Abdominal operations 11th edn.
7. Farquharson Text Book of Operative Surgery 9th edn. 2005
8. Grainger & Allison Diagnostic Radiology 5th edn. Vol: II 1997, 1002 1003.
9. George Teplick J Surgical Radiology P.625-636.
10. Hill P, Rode J H. Pylori in ectopic mucosa in Meckel's diverticulum, patho 30(1):7-9, 1998 Feb.
11. Jewelt TC et al The visualization of Meckel's Diverticulum with 99 MTC Pertechnetate-Surgery 68:567-570:1970
12. Kashi SH et al Meckel's diverticulum; a Continuing dilemma J.Red Surg Edin 40 (6):392-4:1995 Dec.
13. Marguus & Burhenme Alimentary tract radiology 5 th edn.1 vol, 989-992, 1994
14. Marinaccio et al Meckel's diverticulum in child hood 52 (12): 1461 -5, 1997 Dec.
15. Mitchel AW et al Meckel's diverticulum – angiographic finding in 16 patients – AJR 170(5):1329-33, 1998 May.