



STUDY OF MODES OF PRESENTATION OF MECKEL'S DIVERTICULUM AND ITS MANAGEMENT OF A RARE CASE SERIES

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ABSTRACT **Background:** 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 further radiologic studies. This study is to know the various modes of presentation and relative frequencies of occurrence, of Meckel's Diverticulum and establish early diagnosis by various investigations and various modes of management to know the better treatment of choice.

Methods : 18 patients were studied who were diagnosed with Meckel's Diverticulum who admitted in Osmania General hospital during 2014-2016. All the patients underwent definitive treatment.

Results & Findings: From our study it is observed that

1. Meckel's Diverticulum represented 0.56 o/o of all the cases presented to the emergency general surgery and pediatric surgery departments in Osmania General Hospital.
2. The maximum cases were found to be in the 11-20 years age group.
3. There was male preponderance.
4. Pain abdomen is the most common presenting symptom in 88.8 % of cases.
5. In our series, none of the cases, Meckel's Diverticulum were diagnosed preoperatively.

CONCLUSION

1. No associated congenital anomaly was found in our series.
2. In our series, none of the cases, Meckel's diverticulum was diagnosed preoperatively.
3. Plain X-ray abdomen in erect posture was the diagnostic aid cases of intestinal obstruction.
4. At laparotomy, intestinal obstruction was mainly due to the presence of bands in our series.
5. The average size of Meckel's diverticulum was 5 cm and average distance from IC Junction was 56 cm.

KEYWORDS : 1) Pain abdomen 2) Meckel's diverticulum 3) Congenital Abnormalities 4) Abnormal presentation.

1. INTRODUCTION

Meckel's Diverticulum occurs in the terminal ileum 45-90 cm proximal to the ileocaecal valve. It is true Diverticulum since it contains all layers of intestinal wall in contrast to most of the intestinal diverticula which occurs at the mesenteric border of the intestine.

2. AIMS AND OBJECTIVES:

a. Aim

Study of modes of presentation of meckel's diverticulum and its management of a rare case series

b. Objectives

- 1) To study the modes of presentation of meckel's diverticulum based on
 - i. Age
 - ii. Duration
 - iii. Size

c. Study the design of the topic

Prospective study

d. Sample size

18

3. MATERIALS AND METHODS

Clinical studies of 18 cases of Meckel's diverticulum admitted in Osmania General Hospital during 2014 - 16 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.

a) Inclusion criteria: alterations with meckel's diverticulum in all age groups

b) Exclusion criteria: -

4. INVESTIGATIONS

- a. Plain X ray abdomen
- b. Barium contrast studies
- c. Scintigraphic studies
- d. Angiographic studies
- e. Ultrasound
- f. Colonoscopy
- g. Diagnostic laparoscopy
- h. Small bowel endoscopy
- i. Video capsule endoscopy

The various results, analysis and conclusions are presented in the following pages:

Result:

DISCUSSION AND ANALYSIS

Out of 3240 emergency surgeries done in two and half years, there are 18 cases of Meckel's diverticulum treated for various complications.

AGE INCIDENCE

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

	Age Group	No of Patients	Out Series
Most common age group	01-10	4	22 %
	11-20	7	38.8 %
	21-30	3	16.6 %
	31-40	1	5.5 %
	41-50	2	11.11 %
Least common age group	51-60	1	5.5 %

Most common age group 0-10

Least common age group 51-60

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 %

More common in males
Least common in females

SOCIOECONOMIC GROUP:

Most cases were amongst the low socioeconomic group.

ASSOCIATED CONGENITAL ANOMALIES:

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

PRESENTATION OF SYMPTOMS IN MECKEL'S DIVERTICULUM:

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 %

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 (Marinaccio et al, 1997). In our series, we found acute intestinal obstruction; Acute appendicitis and peritonitis were the modes of presentation.

Emergency mode of presentations of Meckel's diverticulum

Presentation	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 %

LAPROTOMY FINDINGS

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

There were also pathological findings other than 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
- VI. Others 1 case

The factors, which necessitated resection of Meckel's diverticulum in one series, were:

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

The factors which necessitated resection in this incidental Meckel's diverticulum were:

Narrow base 4 cases

Induration 1 case
Band 1 case

Comparative series of our hospital to international standard Kasha et al uk

	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 at our series when compared to Arnold cases

Procedures	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 %

CONCLUSIONS

1. No associated congenital anomaly was found in our series.
2. In our series, none of the cases, Meckel's diverticulum was diagnosed preoperatively.
3. Plain X-ray abdomen in erect posture was the diagnostic aid cases of intestinal obstruction.
4. At laparotomy, intestinal obstruction was mainly due to the presence of bands in our series.
5. The average size of Meckel's diverticulum was 5 cm and average distance from IC Junction was 56 cm.
6. No foreign bodies were reported in any case in our series.
7. The average hospital stay was 11 days
8. No significant morbidity has occurred in our series.
9. Mortality was nil in our series.
10. On histopathological examination, diverticulitis was conformed in 6 cases and two cases had ectopic gastric mucosa in our series.

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