SURGICAL TREATMENT OF MECKEL’S DIVERTICULUM
OUR EXPERIENCES

Health Center Krusevac, Department of Surgery, Krusevac, Serbia

Meckel’s diverticulum is the most common true diverticulum of the gastrointestinal tract. This is a congenital diverticulum that results from incomplete closure of the omphalomesenteric or viteline duct.
MECKEL’S DIVERTICULUM PRESENTATION

It was first described by Fabricius Hildanus in the sixteenth century (1598),

and later named after Johann Friedrich Meckel who described the embryological origin of this type of diverticulum in 1809.
MECKEL’S DIVERTICULUM PRESENTATION

THE RULE OF 2s

2% of the population
2 feet (60-100 cm) from the ileocecal valve
2 inches (3-5 cm) in length

the most common age of clinical presentation is 2
2 types of common ectopic tissue (gastric and pancreatic)
2% are symptomatic

males are 2 times as likely to be affected

However, the exact value for the above criteria range from 0.2-5 (for example, prevalence is probably 0.2-4%).
MECKEL’S DIVERTICULUM
SYMPTOMS

The majority of people afflicted with Meckel's diverticulum are asymptomatic. If symptoms do occur, they typically appear before the age of two.

The most common presenting symptom is painless rectal bleeding such as melaena-like black offensive stools (most of the time, bleeding occurs without warning and stops spontaneously), followed by intestinal obstruction, volvulus and intussusception.

Occasionally, Meckel's diverticulitis may present with all the features of acute appendicitis.
Complications of Meckel’s diverticulum in adults include intestinal obstruction, bleeding, acute diverticulitis, or presence of a diverticulum in a hernia sac (Littre’s hernia).

Obstruction may be produced by one of two mechanisms. The most common is volvulus or kinking around a band running from the tip of the diverticulum to the umbilicus, abdominal wall or mesentery. The diverticulum may also cause obstruction by intussusception.

Bleeding is the second most common complication and is usually found only in those patients who have heterotopic gastric mucosa within the diverticulum. The bleeding ulcer is found not in the diverticulum, but in the ileum adjacent to the diverticulum.

Meckel’s diverticulitis, which is clinically indistinguishable from appendicitis, is the third most common complication in adults. The incidence of perforation or peritonitis with Meckel’s diverticulitis is about 50%.
A Meckel’s diverticulum should be considered in the differential diagnosis of patients who present with a mechanical bowel obstruction, with low small bowel hemorrhage, or with signs and symptoms of inflammation or peritonitis. Treatment is prompt surgical intervention, with resection of the diverticulum or resection of the segment of ileum bearing the diverticulum. Segmental intestinal resection is required for treatment of patients with bleeding, because the bleeding site is usually in the ileum adjacent to the diverticulum.
MECKEL’S DIVERTICULUM
TREATMENT

Removal of an asymptomatic Meckel’s diverticulum found incidentally at laparotomy in adults during surgery for other reasons should not be performed.
With this work we want to present our results of surgical treatment of Meckel’s diverticulum.

During the period between 1995-2009 on Surgical ward of Health Center Krusevac we did 12857 abdominal operations, due to 36 (0.28%) were patients with Meckel’s diverticulum.
MECKEL’S DIVERTICULUM
OUR EXPERIENCES

0.28%

12857

36

- ALL OPERATIONS
- MECKEL'S DIVERTICULUM
MECKEL’S DIVERTICULUM
OUR EXPERIENCES

Regarding the sex of the patients 9 (25%) were women and 27 (75%) were men.
MECKEL’S DIVERTICULUM
OUR EXPERIENCES

The youngest patient was only 1, and the oldest was 82 years old (The average age of the operated patients was 36,31 year), while most of the patients were in I and II decade of life.
Number of patients with Meckel’s diverticulum due to years within the period 1995-2009
We had 18 (50%) patients with clinically symptomatic Meckel’s diverticulum, and 18 (50%) patients with asymptomatic Meckel’s diverticulum found incidentally at laparotomy.
MECKEL’S DIVERTICULUM
OUR EXPERIENCES

Of 18 patients with clinically symptomatic Meckel’s diverticulum, we had:

Intestinal obstruction 13
Volvulus 5
Littre’s hernia 3
Intussusceptio 5
Acute Meckel’s diverticulitis 4
Gastrointestinal bleeding 1
MECKEL’S DIVERTICULUM
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72%

22%

6%

INTESTINAL OBSTRUCTION
GASTROINTESTINAL BLEEDING
ACUTE MECKEL’S DIVERTICULITIS
MECKEL’S DIVERTICULUM
OUR EXPERIENCES

We had 14 children, and 11 (78.57%) of them had symptomatic Meckel’s diverticulum, while 3 (21.43%) had asymptomatic Meckel’s diverticulum.
MECKEL’S DIVERTICULUM
OUR EXPERIENCES

In the children’s group most common was intestinal obstruction in 10 cases (5 of them had volvulus, 4 intussusception and 1 Littre’s hernia) and in one case intestinal bleeding.
MECKEL’S DIVERTICULUM
OUR EXPERIENCES

At the same time, we had 22 adults among whom 15 (68.18%) had asymptomatic Meckel’s diverticulum, while 7 (31.82%) had symptomatic Meckel’s diverticulum.
MECKEL’S DIVERTICULUM
OUR EXPERIENCES

In the adult’s group most common was acute diverticulitis in 4 cases (all of them were with perforation and with clinical picture of acute peritonitis), Littre’s hernia in 2 cases and intussusception in 1 case (it was tumour of Meckel’s diverticulum after pathohistological examination).
MECKEL’S DIVERTICULUM
OUR EXPERIENCES

All 18 symptomatic Meckel’s diverticulum we diagnosed intraoperatively, among which 13 of them were under clinical picture of intestinal obstruction (ileus), 4 under clinical picture of acute peritonitis (abdomen acutum), and 1 as gastrointestinal bleeding (hematochaesio).
MECKEL’S DIVERTICULUM
OUR EXPERIENCES

Resection of the segment of ileum with diverticulum Meckeli with end-to-end anastomosis in one layer we were performed in 14 (77.78%) cases, while resection of the diverticulum itself was performed in 4 (22.22%) cases.

78%

22%

- INTESTINAL RESECTION
- DIVERTICULECTOMIO
MECKEL’S DIVERTICULUM
OUR EXPERIENCES

Ectopic gastric mucosa, large bowel mucosa, pancreatic tissue and small bowel neoplasma were verified on histopathological biopsy.

Morbidity was 8.33% (2 wound infection and 1 early postoperative dehiscentio anastomosis)
Mortality was 0%
MECKEL’S DIVERTICULUM
OUR EXPERIENCES

Treatment of symptomatic Meckel’s diverticulum is intestinal resection with end-to-end anastomosis in one layer.

Asymptomatic Meckel’s diverticulum requires no treatment in adults.

Segmental ileal resection (if diverticulum base is wide), or profilactic diverticulectomy (if diverticulum base is narrow) is required for prevention of complication of Meckel’s diverticulum in childhood.
MECKEL’S DIVERTICULUM
OUR EXPERIENCES
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