

## Acute Perforated Appendicitis: A Case Report

**Mohd. Nizam**

Oncology Surgeon Faculty of Medicine, Malikussaleh University - Cut Meutia Hospital Lhokseumawe,  
Aceh-Indonesia

**Syafruddin Syafruddin**

Clinical Student, Faculty of Medicine, Malikussaleh University, Lhokseumawe

Corresponding Author : [mohd.2006112044@mhs.unimal.ac.id](mailto:mohd.2006112044@mhs.unimal.ac.id)

**Abstract.** Appendicitis is an inflammation that occurs in appendix vermicularis, a tubular organ located at the base of the large intestine located in the lower right abdomen, which acute inflammation of the appendix. Appendicitis is the most common case of acute abdominal surgery. Appendicitis can hit all age groups, although it is not common in children before school age. can causes dangerous complications if surgery is not performed immediately. The patient's history of the course of the disease and physical examination are the most important things in diagnosing appendicitis. All cases of appendicitis require the removal of the inflamed appendix, both with laparotomy and with laparoscopy. If treatment is not taken, the mortality rate will be high, mainly caused by peritonitis and shock. Here we present a case of acute perforated appendicitis in a 29-year-old male patient.

**Keywords:** Appendicitis, Perforated.

**Abstrak.** Apendisitis adalah peradangan yang terjadi pada apendiks vermicularis, suatu organ berbentuk tabung yang terletak pada pangkal usus besar yang terletak di perut kanan bawah, yang merupakan peradangan akut pada apendiks. Apendisitis adalah kasus yang paling umum dari operasi perut akut. Apendisitis dapat menyerang semua kelompok umur, meskipun tidak umum terjadi pada anak sebelum usia sekolah. dapat menyebabkan komplikasi yang berbahaya jika tidak segera dilakukan operasi. Riwayat perjalanan penyakit dan pemeriksaan fisik pasien merupakan hal terpenting dalam mendiagnosis apendisitis. Semua kasus radang usus buntu memerlukan pengangkatan usus buntu yang meradang, baik dengan laparotomi maupun dengan laparoskopi. Jika pengobatan tidak dilakukan, angka kematian akan tinggi, terutama disebabkan oleh peritonitis dan syok. Di sini kami menyajikan kasus apendisitis perforasi akut pada seorang pasien laki-laki berusia 29 tahun.

**Kata kunci:** Apendisitis, Perforasi.

### INTRODUCTION

Acute appendicitis is an inflammation of the occurs in the vermiform appendix. The appendix is a tubular organ located at the base of the large intestine located in the lower right abdomen, this organ secretes IgA but often causes problems for health.<sup>1</sup> Appendicitis is the most common cause of acute abdominal pain and produces the most frequent type of operation done in the world.<sup>1</sup> Acute inflammation of the appendix causes dangerous complications if surgery is not performed immediately.<sup>1</sup> Appendicitis can hit all age groups, although it is not common in children before school age. Acute appendicitis can develops into a perforated appendix can later result in 67% of deaths in cases of acute appendicitis.<sup>2</sup> Instead almost 1/3 of children with acute appendicitis have perforation even though after surgery.<sup>2</sup> The patient's history of the course of the disease and physical examination are the most important things in diagnosing appendicitis.<sup>3</sup>

Early appendectomy have been long recommended as a treatment of acute appendicitis due to risk appendicitis progresses to perforation.<sup>3</sup> Perforation of the appendix will cause sepsis uncontrolled (due to peritonitis), abscess intra-abdominal or gram- negative septicaemia.<sup>4</sup>

## CASE DESCRIPTION

A 29-year-old male patient came to the emergency room with chief complaints of lower right abdominal pain that was felt since 3 days ago which was felt severely a few hours before entering the hospital. Pain is felt like being stabbed and severe when the abdomen is pressed or when the patient moves. Initially the pain is felt around the umbilical which is dull then the pain is felt radiating to the lower right abdomen accompanied by nausea, vomiting.

The patient also complained of fever since 3 days ago and aggravated a few hours before entering the hospital. Patients also complain having diarrhea once since entering the hospital. Miction is normal. The patient does not suffer from chronic diseases, heart disease is refuted, blood disorders are refuted, drug and food allergies are refuted. The history of sandy/stone urination is refuted. The patient has never experienced similar complaints. A history of hypertension, a history of diabetes mellitus, and a history of allergies are absent. Patients work as *salesmen*. Daily activities are felt not too strenuous. Exercise and physical activity are rare. Economic conditions are sufficient. The patient does not smoke and does not consume alcohol. Patients eat 3 times a day regularly, drink enough water, but consume less vegetables. There are no pets in the house.

Upon physical examination, on inspection, patient's abdomen looks distension. Tenderness at the Mc Burney's point (+), blumberg sign (+), rovsing sign (+), psoas sign (+) on palpation. Defans muscular on palpation was also evident. Rectal touché examination found pressure pain at 11 o'clock direction. Laboratorium blood test showed leukocytosis.

The positive findings of kocher's sign which is pain that initially felt at the epigastrium then radiating to the lower right abdomen quadrant, and also positive finding upon palpation which is tenderness on Mc Burney's point, rovsing sign, blumberg sign, psoas sign, defans muscular, and pressure pain on rectal touché were considered a provisional diagnosis of suspected acute perforated appendicitis.

Differential diagnosis of gastroenteritis, ureterolithiasis, perforated peptic ulcer was considered. In this case, the main intervention, appendectomy, was done.

Considering the alvarado scores 7-10 then the treatment is surgery as soon as possible.

## **DISCUSSION**

This patient was diagnosed with appendicitis because it was obtained from the anamnesis: abdominal pain in the pit of the stomach that shifted to the lower right abdomen and then persisted (Kocher's sign). This pain/pain is caused by stimulation of afferent visceral pain fibers found in the appendix that enter the spinal cord at the level of the X thoracic vertebra. Because visceral pain fibers are stimulated, the characteristics of the pain are dull and cannot be localized properly by the patient.<sup>5</sup> If the intraluminal pressure continues to increase, this will cause venous obstruction, increased edema, and bacteria will penetrate the wall of the appendix. The inflammation that arises is even more widespread and affects the local peritoneum, causing pain in the lower right abdominal area.<sup>6,7,8</sup> At this point the pain feels sharper and more clearly located, so it is local somatic pain. The pain gets worse with movement (walking, changing position from lying to sitting). Symptoms of abdominal pain are accompanied by fever, nausea, and loose stools.<sup>11,12</sup>

Pain in the right lower abdomen in this patient can also be caused by the presence of a right ureteral stone, colon inflammation, and perforation of a duodenal ulcer which has been ruled out by the absence of a history of urinary stones / sandy, sudden onset of pain, normal urination.<sup>7,8</sup>

In these patients rarely eat vegetables or fruits so that these habits can cause constipation. The presence of constipation causes fecalith obstruction of the appendix. This is in accordance with the theory which states that the most common cause of obstruction is fecalith.<sup>6</sup>

On physical examination found: Inspection: distension (+) which indicates obstruction of the gastrointestinal tract scar (-) which excludes adhesive from surgery, auscultation: decreased bowel sounds indicating obstruction of the gastrointestinal tract, palpation: tenderness at point Mc. Burney's (+), blumberg (+) in the right iliac region at Mc Burney's point, psoas sign (+). All of these are signs of appendicitis. Defense muscular (+) indicates the possibility of perforation has occurred. Rectal Toucher: Tenderness in the anterior direction at 11 o'clock, it is possible that the inflamed appendix is located in the pelvic area.<sup>12</sup>

On laboratory examination found leukocytes: 14.44 /uL which indicates a sign of an infectious process that occurs.

From the history, physical examination, and supporting examinations, it can be summarized in the Alvarado score:

<i>Features</i>	<i>Points</i>
<i>Mmigration of pain from central area to RLQ</i>	1
<i>Anorexia or acetonuria</i>	1
<i>Nausea with vomiting</i>	1
<i>Tenderness in RLQ</i>	2
<i>Rebound tenderness</i>	1
<i>Eelevated temperature 37.3°C</i>	1
<i>Leucocytosis (&gt;10,000/mm<sup>3</sup>)</i>	2
<i>Shifted WBC count (&gt;75% neutrophils)</i>	-
<b><i>Total possible points</i></b>	<b>9</b>

If Alvarado scores 7-10 then the treatment is surgery as soon as possible. In this patient the treatment is appendectomy surgery.<sup>5,6</sup>

A thickened appendix is found which can indicate that there is edema in the appendix and the presence of an abscess or intra- abdominal fluid, which indicates a perforation has occurred. This finding supports the acute infectious process. Where in the anamnesis there was pain that appeared suddenly and the patient had never felt pain before and on physical examination found muscular defenses in the entire abdominal field. This is also supported by an increase in the number of leukocytes, which is 14.4/uL.

## CONCLUSION

A case of acute perforated appendicitis has been reported in a 29-year-old man. In the anamnesis the patient complained of right lower abdominal pain accompanied by fever and diarrhea. A history of chronic disease, as well as a history of sandy urine/stones was denied. Physical examination of the abdomen revealed distension, positive bowel sounds, muscular defans, pain at point mc. Burney's (+), tenderness/blumberg sign, Rovsing sign, and psoas sign. Laboratory examinations revealed an increase in leukocytes. Alvarado's score in this patient was 9 so this patient

needed an appendectomy as soon as possible and the appendix edema and perforation were found. The perforated part was closed and the patient was treated in the male operating room.

## REFERENSI

- Sherwood, Lauralee. *Human Physiology: From Cells to Systems*. [edit.] Nella Yesdelita. [trans.] Brahm U. Pendit. Edition 6. Jakarta : EGC, 2011.
- Mike K. Liang, Roland E. Anderson, Bernard M. Jaffe, David H. Berger. *Schwartz's Principles of Surgery*. 10th Edition. New York: McGraw-Hill Education, 2015. p. 1241-1256.
- PAPDI. *Textbook of Internal Medicine*. [edit] Siti Setiati. Edition 6. Jakarta : Interna Publishing, 2014. Vol. Volume 1.
- Friedrich Paulsen, Jens Waschke. *Sobotta: Atlas of Human Anatomy: Internal Organs*. Edition 23. Jakarta : EGC, 2012. Vol. Volume 2.
- Wineski, Lawrence E. *Snell's Clinical Anatomy by Region*. Tenth Edition. Philadelphia : Wolters Kluwer, 2019.
- Sjamsuhidajat, R and de Jong, Wim. 2004. *Textbook of Surgery*. Jakarta: EGC
- Heller, Jacob L. 2008. Appendectomy - series: Normal anatomy. Retrieved May22, 2010, from Medline Plus:[http://www.nlm.nih.gov/medlineplus/ency/presentations/100001\\_1.htm](http://www.nlm.nih.gov/medlineplus/ency/presentations/100001_1.htm)
- Hackam, David. 2008. Appendicitis. Retrieved May22, 2010, from Knol – A Unit of Knowledge:<http://knol.google.com/k/dr-david-hackam/appendicitis/RNKGbbtd/Z1o0Yg>
- Craig, Sandy. 2008. Appendicitis, Acute. Retrieved May 22, 2010, from eMedicine :<http://emedicine.medscape.com/article/773895-overview>.
- Digestive Surgery. 2008. Acute appendicitis. Retrieved May22, 2010, from UGM Surgery:<http://bedahugm.net/Bedah-Digesti/Appendicitis-akut.html>
- Hardin, Mike. 1999. Acute Appendicitis Review and Update. Retrieved May22, 2009, from the American Academy of Family Physicians.:<http://www.aafp.org/afp/991101ap/2027.htm>