

Delayed treatment of appendectomy that causes systemic inflammatory response syndrome: a rare complication

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ABSTRACT

When acute appendicitis is present and lately treated, further complications will occur against patients. This case report describes an unusual presentation of acute appendicitis in a young patient and demonstrates a unique late complication of perforated appendicitis. A 15 year old female acute appendicitis patient had laparotomy accompanied systemic inflammatory response syndrome (SIRS) symptoms. After treatment of 6 days in the intensive care unit (ICU), the patient was healed. We emphasize the importance of early treatment for acute appendicitis and septic complications.

Keywords: Sepsis; SIRS, Appendectomy; Apses; Complication

1. INTRODUCTION

Acute appendicitis may become life threatening if it is complicated by retroperitoneal abscess. The mortality rate is 16.7% and deaths are mostly caused by profound sepsis [1]. The initial leakage of endogenous gastrointestinal microflora into the peritoneal cavity results in peritonitis and secondary septicemia, which often results in a localized intraabdominal abscess [2]. The American College of Chest Physicians defined the criterias of SIRS in the consensus conference for sepsis and organ failure. Patients present with two or more of the following criterias [3]:

- 1) Body temperature (T) > 38.3°C or < 36°C
- 2) Heart rate > 90 beats/minute
- 3) Frequency of breathing > 20/min or PaCO₂ < 32 mm Hg
- 4) Leukocyte count or immature-to-total (I/T) ratio >

12.000/mm³ or < 4.000/mm³, > 10% immature (band) cells

We report a case in which the patient was wrongly diagnosed and SIRS came into existence.

2. CASE REPORT

A 15 year old female patient applied to the village clinic with symptoms of diarrhea and tummyache. Her medical history was unremarkable. She was diagnosed as urinary tract infection and gastroenteritis and was told to take nidazolam tablet and nonsteroidal antiinflammatory drug in her prescription. At the end of 7th day, she came back to the same clinic with again tummyache together with nausea and vomiting. Abdominal distention and fever of 38.4°C were determined in her physical examination. Later, the patient was admitted to the emergency clinic of Central Education and Research Hospital. She was hospitalized in internal medicine service. Because the evidences of abdominal distention, nausea and vomiting, diarrhea and weight loss of 5 kg did not regressed, she was examined by general surgery in the 3rd day. In physical examination, the patient was apathetic, uncooperative, disoriented, her Glasgow Coma Scale was 9, temperature (T) 39.8°C, heart rate (HR) 150 beat/min, arterial tension (TA) 60/30 mmHg, dry and crusty oral mucosa, sinus tachycardia in electrocardiogram, tachypnea, respiratory rate (RR) 40/min, 41.5% hematocrit value and white blood cell (WBC) value was 31700. She was accepted to the operation room urgently under the prediagnosis of mechanical intestinal obstruction by malignant tumour. After median incision, edematous intestines with patchy cohesiveness were watched over. The purulent volume of 2000 cc was aspirated from the abdominal cavity. As median perforation of appendicitis was determined, appendectomy was applied. The operation took 2 hours time.

Due to the central venous pressure (CVP) measurements, liquid replacement was administered by colloid and crystalloid solutions. She was accepted to the ICU with the diagnosis of SIRS postoperatively. The postoperative values were: TA:80/60 mmHg, HR:147 beat/min, oxygen saturation (SpO₂): 91%, Sodium: 128 mEq/L, Potassium:2.7 mEq/L, Glucose: 222 mg/dL, ionized calcium: 0.59 mmol/L, Albumin: 1.5 g/dL, Direct bilirubin: 0.38 mg/dL, Total protein:3.2 g/dL, Hb: 12.8 g/dL, Platelet: 465000/microL WBC: 34800/microL, T: 38.2°C. The patient was in respiratory distress with RR of 32/min and Forced vital capacity: 55%, Forced expiratory volume in 1st minute: 58%. The blood gas: pH: 7.38, Partial pressure of carbon dioxide (pCO₂): 26.1 mmHg, Partial pressure of oxygen (pO₂): 70.3 mmHg Bicarbonate (HCO₃): 15.5 mEq/l Base excess (BE): -7.6 Lactate: 1.2 mg/dL SpO₂: 93.8%. She had oxygen support with 8 lt/min by facemask. Hyponatremia and hypocalcemia treatment, antibiotherapy, colloid and crystalloid replacement, total parenteral nutrition, crystallized insulin therapy was put in order. Non-invasive mechanical ventilation was provided by using facemask. On the second postoperative day, the haemodynamic parameters did not differ but pCO₂ was 28.7 mmHg, pO₂ was 101.2 mmHg and CVP was +2 mmH₂O. The abdominal Computerized Tomography (CT) findings were normal in the 4th day and she was dramatically healed during the following days. Orally feeding was started in the 5th day and at the end of the 6th day the patient was discharged from the ICU. WBC value in 8th day was 22800/microL and in 12th day it was 15700/microL.

3. DISCUSSION

A significant number of complications for acute appendicitis develop due to delayed or even missed diagnosis. Complicated appendicitis includes perforation of the appendix, empyema or abscess formation [4]. As Nozoe *et al.* attracted attention on SIRS score to determine the surgical indication for acute appendicitis, this score could be useful as objective and auxiliary information [5]. On the other side, unnecessary appendectomy carries long-term risks for the patient [6]. The importance of complex therapy should be considered. Both surgical and postoperative intensive cares are considerable. Additionally, collaboration between surgeons and anesthesiologists is remarkable [7]. Septic pylephlebitis or wound infection has been also reported after perforated retrocecal appendicitis [8,9]. CT might be an advantage for physicians in preoperative evaluation [10]. The patient that we report in this case did not need en-

dotracheal intubation. Non-invasive mechanical ventilation by facemask was enough so, the patient was not face to face for the complications of invasive ventilation therapy. This result occurred as a benefit of early rehabilitation in the ICU. Acute appendicitis must be diagnosed by talented physicians without wasting time. Lateness in operation decision combines the rudiments of pathway that extends from perforation to septic intramural abscesses [11].

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