

## CASE OF SEVERE SEPSIS OF BILIOUS ORIGIN

Laura Marinău<sup>1</sup>, Polixenia Stancu<sup>1</sup>, Ileana Petrescu<sup>1</sup>, Carmen Niculescu<sup>1</sup>

### Summary

In most cases, sepsis in children appears as a complication of a respiratory infection, especially viral and bacterial pneumonia. It can occur in setting of other infections: endocarditis, osteomyelitis, appendicitis, arthritis, celulitis. Sepsis is exceptionally of biliary etiology, as a complication of lithiasis; gallstones are rarely described in children.

Severe sepsis was defined as sepsis associated with at least one acute organ dysfunction. The authors report the case of a patient 14 years and 8 months age, diagnosed with gallstones and sepsis with acute cholecystitis starting point. Medical history noted a family predisposition to gallstones and obesity, and improper diet. Onset of disease was through food and bilious vomiting, severe dehydration, fever, colicky abdominal pain, especially right upper quadrant. Laboratory analysis showed leukocytosis, increased ALT and AST levels four times of normal, and ultrasound revealed the presence of numerous gallstones. After hydric rebalancing and treatment with antibiotics, the medical healing of cholecystitis, followed by removal of the gallbladder surgical cure, accomplished with success.

Conclusion: It was a severe sepsis score 4, which required medical treatment and surgery. After 2 years and 4 months after the intervention, teenage feels great, has not accused any epigastric pain.

**Key-words:** sepsis, gallstones.

### Introduction

Severe sepsis was defined as sepsis associated with at least one acute organ dysfunction.

Diagnosis of infectious SIRS (sepsis) is put on record the condition of infection and the following criteria (1;2; 3) of which is sufficient presence of at least two:

- Fever: rectal temperature of at least 38.4 Celsius or hypothermia under 36,4 degrees C.
- Tachypnea: an amount twice the average age of the child, when it was measured, a value Pco<sub>2</sub> <32 mmHg was considered objective evidence of tachypnea (33). Type gasping breath, the need intubation and mechanical ventilation is also a criterion for SIRS (4).
- Tachycardia: value > 2SD from the average age, in the absence of MCC, chronic heart failure or sympathomimetic medications (4).
- Leukocytosis > 12000/mmc or an increase of over 10% of young forms in LF or leukopenia <4000/mmc (5).

Since tachycardia and tachypnea are common symptoms of many pediatric diseases, the main difference in the diagnosis of SIRS in children compared to adults is mandatory changes in temperature and / or leukocytes. In pediatric, SIRS can not only diagnose on the heart rate and breathing (6, 7).

### Case report

Introducing BC girl patient, aged 14 years and 8 months, was admitted to the Pediatric Clinic from 11 to 19 December 2008 (the no: 64509).

Grounds admission: food and bilious vomiting incoercible, colicky abdominal pain and fever. The family history-collateral remember that girl's father has suffered of diabetes mellitus type II, and her mother was without gallbladder from the age of 37 years. Maternal grandmother died from pancreatic head cancer.

The patient has a healthy sister and two brothers.

History remembers from the patient's eating habits, propensity to consume animal fat in fried food and soft drinks like Pepsi-Cola, as a personal history of pathological mind a hospitalization at the age of 2 years and 4 months for erythema nodosum.

On physical examination at admission, noted: Height = 161 cm, Weight = 65 kg, malaise, ringed face; drowsiness, pale skin with reduced elasticity; dry mucous membranes; tongue aloin, "adherenced" of spatula; panicle fat surplus; normal respiratory relations; HR = 118 b/ min, sinus rhythm; congested oropharynx with hypertrophic tonsils; intense abdominal pain in epigastrium at palpation of the deep "in the bar" and in right upper quadrant; the liver with the lower limit at one cm below last coast; mictions rare, small quantity of urine, intense coloured; state of marked weakness. Patient had presented the first day of hospitalization, one green bilious vomiting, respectively yellow heavy, the second; continued to accuse colicky abdominal pain. From the second until the seventh day of hospitalization, he presented twice fever 38 to 38 and four degrees Celsius, nausea, loss of appetite. Laboratory investigations (findings):

On the first day of hospitalization, surgical consultation had the result: "Current is not acute surgical abdomen. Ulcerous dyspepsia".

<sup>1</sup> Medicine Faculty, University of Medicine and Pharmacy Craiova; Emergency Hospital of Craiova  
E-mail: marinău\_doru@yahoo.co.uk, stancu.poli@yahoo.com, petrescu.florin@yahoo.com, niculescudragos@yahoo.com

ECHO abdominal and pelvic in 15 XII 2008:  
 "Liver with left lobe = 6 cm, right lobe = 11, 5 cm, homogeneous structure. Hyperechogenous gallbladder shows multiple images of 3-4 mm, latch located rear and left obscuring - suggestive of gallstones. Hyperechogenous gallbladder walls, thickness of four mm, main biliary channel = 3 mm, 11 mm PV, VS = 5 mm. hyperechogenous. Pancreas diffuse, homogeneous, 1.8 cm mediusize of the body and 1 cm diameter of head. Left kidney = 11.2 cm, PI = 25 mm, expansion, without stones, right kidney = 17 cm long axis, net shape and regular PI = 22 mm, dilatation without stones. Spleen: 9 / 3/ 7 cm homogeneous, without dilated veins. Uterus intermediate position 5, 6 / 3, 3 / 4 cm homogeneous structure. Both normal-sized ovaries, without cystic formations; peritoneal cavity drained".

The second echo in 19 XII 2008 confirmed gallstones:  
 "Liver with homogeneous structure LL = 55 mm. Additional gallbladder wall, has got deposits of microstones (3-4 mm). PBC, VP of normal diameter. Pancreas increased: 26 mm AP, hypoechogenous body, contours deleted. Kidneys are normal. Normal uterus, no ovarie's cystic formations. There is fluid in the peritoneal cavity".

Abdominal X-ray in 11-XII- 2008: "Without airhydrous levels.

H-L + LF: first count of leukocytes in emergency:  
 - 11 XII: WBC = 17000/mmc, Hb = 80%;  
 - 15 XII: WBC= 15000/mmc, PMN = 66%, Hb = 12.52 g / dl, Platelets = 160000/mmc;  
 - 11 XII: ALT = 140 / l, AST = 149 / l, urea = 29 mg%, creatinine = 0.73 mg%.

Repeat the next day- in 12 XII: ALT= 84 u / l, AST = 30 U / l, BBt= 1.09 mg / dl, TQ = 100 sec;



Fig. 1 The overweight adolescents with gallstone disease.

With the exception of certain pediatric-specific diagnostic criteria for sepsis introduced in the 2001 Consensus Conference report, little consensus exists in the literature for the definition of pediatric severe sepsis.

Complicated sepsis score was performed starting from Levy and all. (8), Angelescu N.(9), Munford R.(10) and others authors(11, 12, 13, 14, 15):

*Clinical criteria-score*

Coma I degree, vigilante: 1p.

Coma gr. II, average: 2 p.

Ex urine: acid pH, albumin fine traces, Ubg-normal; bile pigments = absent, ASO = 600UI/l, fibrinogen = 320 mg / dl.

Treatment

It was necessary to rebalance fluids by vein infusion the first two days, then treatment of gastritis and gallbladder infection. Were given antibiotics: Ampicillin four days, then Penicillin and Sulperazon 5 days. 4 days was given: Controloc, Helicid, Metoclopramide necessary, Algocalmin (Metamizolum natricum).

Evolution

Evolution was favorable, she has got no fever anymore, abdominal pain has finished. She was transferred to the surgical service where she suffered laparoscopic gallbladder extraction. It was performed successfully, with discharge after two days.

### Discussion

In most cases, sepsis in children appears as a complication of a respiratory infection, especially viral and bacterial pneumonia.

It can occur in setting of other infections: endocarditis, osteomyelitis, appendicitis, artritis, celulitis. Sepsis is exceptionally of biliary etiology, as a complication of lithiasis.

Gallstone disease is not commonly encountered in children. Meets, however, the overweight adolescents (fig. 1), sedentary, with unhealthy diet, in part this risk group included the patient described. In addition, it also had a family history, being overweight father and mother with gallstones, surgically resolved. The diagnosis of sepsis could be established in the presence of fever and leukocytosis, acute cholecystitis as the initial infection.

Coma gr. III, deep: 3 p

Capillary refill time > 3s and/or "mottled", low BP <1h: 1 p.

Capillary refill time (CRT) > 3s and/or "mottled", low BP > 1h: 2 p.

Hepatosplenomegaly: 0.5 p.

Dynamic ileus: 1 p.

Hemorrhagic purpura: 1 p.

Laboratory Criteria -score

100000/mmc > Plt > 20000/mmc: 1 p.

Platelets <20000/mmc: 2 p.

80% <satO<sub>2</sub> <85%: 1 p.  
 Oxygen saturation < 80%, pO<sub>2</sub> < 49mmHg: 2 p.  
 Lactic acidosis, pH between 7.2 and 7.35 p.  
 Severe acidosis pH <7.2 2 p.  
 ALT> 2SD or/ Bbt> 4mg/dl: 1p.  
 CRP > 2SD: 1p.  
 moderated nitrogen retention =1p  
 marked nitrogen retention = 2p  
 Glucose > 120mg/dl, transient = 1p.  
 Hb <7.5 g / dl: 1p.

According this score, severe sepsis has been calculated from 4 points.

Passenger increased transaminases (4 times higher than normal values), calls for severe sepsis triggered by a gall infection, recommended, as liver ultrasound, the calculate of Bbt, excluded the diagnosis of acute or chronic hepatitis. Ultrasound suggested a pancreatic involvement, but was merely a reactive inflammation of this organ, probably

triggered by the migration of a gall mycrostone. Amylasemia (harvested on December 18) was 32 units per liter. Given the family history (father ill of diabetes mellitus and grandmother died in pancreatic cancer), the patient may pose a pancreatic sensitivity but glucose were collected in the normal range. At one month after surgery, the patient was clinically healthy, just sometimes accusing postprandial gastric discomfort, but did not comply with recommended diet.

#### Conclusion

It was a severe sepsis gallbladder origin, with 4 points score, resolved after 14 days of antibiotics (in Surgery Clinic followed Sulperazon another 5 days) and surgical excluded of gallbladder. After surgical intervention, prognosis is excellent. Two years after disease, the teenager never accused anything, nor presented anymore gastrointestinal infection.

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Correspondance to:

Marinau Laura Daniela  
 Craiova, str.Riului, no.177  
 Telephone: 0251/418512  
 E-mail: marinau\_doru@yahoo.co.uk