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INFECTIOUS RISK AND PROFESSIONAL LIABILITY. A CASE OF SEPSIS IN A YOUNG WOMAN

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ABSTRACT

Introduction: *In recent decades, increasing attention has been paid to controlling the risks deriving from medical as-sistance. Sepsis is a pathological state in which there is disseminated infection in the bloodstream and this entails an important risk for the life of patients.*

Case presentation: *A 39-year-old woman experienced abdominal pain and fever. Over the next few hours she showed signs of syncope and disorientation. She herself was splenectomized but despite this she was not initiated early on antibiotic therapy and this led to her death.*

Discussion: *Sepsis represents a significant risk factor in patients and must be recognized early and treated through the infusion of appropriate and adequate early antibiotic therapy.*

Keywords: *Sepsis, medical liability, clinical risk management, emergency, guidelines.*

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Introduction

In recent decades, increasing attention has been paid to controlling the risks deriving from medical assistance and to adopting a proactive approach in order to contain or eliminate the risks resulting from medical activities[1-7]. Sepsis is a pathological state in which there is disseminated infection in the bloodstream and this entails an important risk for the life of patients[8, 9]. For this reason, there are numerous contributions in the literature for the correct treatment and prevention of this pathological state. The case we report is particularly interesting from this point of view because it involves a profile of professional responsibility on the part of the organizational management of the relief efforts[10 -11-12].

Case presentation

The present case concerns the affair of a 39-year-old young woman. In the afternoon of the day 15.05.2018 the patient showed symptoms characterized by fever, vomiting and abdominal pain not susceptible to treatment with the common symptomatic drugs used at home, the same, together with her husband, were alarmed and at 8:15 pm they contacted the medical guard to seek qualified assis-tance. Despite repeated requests, the patient underwent a medical examination only around 10:00 pm. The doctor who intervened warned the emergency service for immediate transport to the hospital giv-en the critical condition of the patient. She in particular she detected tachycardia equal to

115 beats per minute, blood pressure of 70 mmHg, pain, positive Giordano and Murphy signs, in addition the patient had lost lucidity and orientation. At 10:30 pm, when the ambulance staff arrives on site, the patient's general condition is characterized by an evident state of generalized sepsis. A state of presyncope is described.

Parameters: PAO 90/60 mmHg, HR 110 bpm, TC 39.2 ° C, SpO2 93%. After a few minutes the patient was transported to the nearest emergency room where a previous splenectomy was reported. Fluid therapy began at 11:00 pm in order to perform intravenous volume filling with Emagel and norepinephrine administration. The surgical visit revealed an acute abdominal state with septic shock with PAO 68/35, HR 110 bpm, SpO2: 97%. In the following minutes a CT scan of the abdomen was performed which revealed: "The pancreas is within limits. Non-dilation of the Wirsung duct. The kidneys are within limits. There are no calculations. Non-dilation of the urinary tract. Outcomes of splenectomy. The liver is enlarged with signs of steatosis. Between the IV and V segment a hypodense formation is visualized, with a diameter of 1.8 cm to be re-evaluated by ultrasound exami-nation. The gallbladder is distended with regular walls. Non-dilation of the biliary tract. Not obliterat-ed the portal vein. Presence of edematous imbibition along the course of the portal vessels as from hyperhydration. Presence of perihepatic liquid stratum and around the gallbladder. Liquid stratum with edematous imbibition of the retro peritoneal adipose tissue is evident around the renal vessels, around the adrenal glands. Moderate liquid flap is recognized in pelvic excavation. Not free air in the abdo-men. No over-distension of the intestinal loops or of the hydro-aerial levels. Adjust the abdominal aorta. Not obliterated the main splanchnic vessels. In the scans of the thoracic abdominal passage, probably disventilative thickening in the dorsal sectors of both lower lobes is highlighted ".

At 03:30 am the following is reported in the medical record: surgical consultation: “picture of septic shock of unknown origin. The abdominal clinical picture is not significant: the abdomen is flat and widely treatable, no wall defense, no signs of peritonism, peristalsis is present. Although evaluable, modest pain in the right hypochondrium with negative Murphy is appreciated. Given the extremely serious general situation, he prepares to proceed with diagnostic laparoscopy. Administration of teicoplanin. The subsequent rapid evolution into cardiac arrest which required repeated cardiopulmonary resuscitation maneuvers, in agreement with resuscitators colleagues, leads us to suspend the surgical indication. After a few minutes, death from fulminant septic shock was reported.

Discussion

The case in question shows the inauspicious outcome of an imperfect treatment of a septic state in a young woman. Sepsis is the leading cause of death from infection, especially if not recognized and treated promptly. Its recognition requires early attention and treatment. Sepsis is a syndrome caused by factors related to the pathogen and factors related to the host with characteristics that evolve over time. What differentiates sepsis from infection is a host response, aber-rant in the presence of organ dysfunction. Sepsis is a disease with an increasing incidence, so much so that it represents the 11th cause of mor-tality in the United States (10% of all deaths). The European Society of Intensive Care and the Society of Critical Medicine of the United States and the International Forum on Sepsis, in 2002 launched an international project called Surviving Sepsis Campaign (SSC) with the aim of defining and imple-menting standard protocols of treatment of the patient with severe sepsis.

The recommendation documents from the Surviving Sepsis Campaign[12] are considered interna-tionally as the most comprehensive sources available for the management of septic and septic shock patients; in fact, they have been widely disseminated and received by more than 30 scientific societies worldwide. The SSC guidelines were first published in 2004, then revised in 2008 and 2012. The fourth revision (2016) was published in January 2017. Each of these contains updates but all agree on the fundamental points of the diagnosis and treatment.

According to these documents, after the first phase of classification, the patient must be promptly initi-ated to the treatment paths appropriate to his clinical condition in the hospital. To this end, the emergency doctor - urgency responsible for clinical management, on the basis of clinical elements and local organizational aspects, activates the specialists and agrees on subsequent treatment paths with the oth-er professionals involved.

Throughout the observation phase, it is necessary to guarantee the patient an adequate level of monitoring and assistance. In general, the key factors capable of determining a significant impact

on the course of severe sepsis and septic shock, which have been shown to be effective in reducing mortality from septic shock, are:

- The timeliness of identification of patients with severe sepsis (early diagnosis);
- The timeliness of therapeutic intervention (initiation of antibiotic and fluidic therapy).

The concept of "golden hour" already expressed for other "time dependent" pathologies is also proposed for severe sepsis and septic shock, underlining the analogy with the principles of treatment of these serious clinical pictures, such as major trauma, acute myocardial infarction, the stroke ("time to needle"). The 3 fundamental actions for the correct and timely management of sepsis are: appropriate and adequate early antibiotic therapy; appropriate and adequate early hemodynamic resuscitation; appropriate early control of the outbreak of infection.

The main operative measure in the very early stages of treatment aimed at containing and treating the septic state, in addition to supporting the circulation, is represented by the administration of broad-spectrum antibiotic therapy.

The timely administration of appropriate antibiotic therapy within 60 minutes of the identification of sepsis and after the collection of appropriate cultures is essential for effective treatment: every hour of delay is associated with a significant increase in mortality.

Initial empirical antibiotic therapy is based on clinical and epidemiological criteria and usually includes one or more drugs with a broad spectrum of action, active against possible pathogens, at effective dosages and with characteristics that guarantee penetration into the foci of infection present. There are numerous protocols that suggest the methods, posology, etc. to implement the best empirical antibiotic therapy at the time of diagnosis. However, these indications should be declined at the local level so as not only to be accessible to the various operators but also to be specific to the territory and the com-mon bacterial populations present.

In the specific case, the morbid picture developed by the patient can be defined as an OPSI or Overwhelming post-splenectomy infection, a particular type of sepsis secondary to splenectomy[12-13-14]. People who have been splenectomized have a greater risk of contracting sepsis, therefore special attention and rigor in the diagnosis is required in these subjects. There are numerous statistical studies concerning mortality from sepsis present internationally. The study conducted by Singer M. et al.[12] notes a general mortality for sepsis equal to 10%, underlin-ing however how the compromise of several organs or systems and the delay in diagnosis and adequate assistance are elements that contribute to determining the death of the subjects. Furthermore the infection treatment pathway represents one of the central elements in the prevention of clinical risk at every level of health care[15]. In the complex management of these cases, the knowledge and application of recommendations and guidelines is a necessary and priority activity within a specific risk containment strategy in hospitals and territories[16-20].

In the present case it was a young woman who, probably at the time of her husband's call and certainly at the time of the first medical examination, manifested symptoms clearly indicative of a septic state. If the rescue had been more timely and the antibiotic therapy had been administered early, the patient's chances of survival would have certainly been greater. Finally, sepsis still represents a cause of death which, however, can in many cases be avoided thanks to the training of operators and constant attention to the most recent scientific evidence.

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