

## CLINICAL ASPECTS IN ACUTE PANCREATITIS

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### **Abstract**

*In acute pancreatitis the clinical picture can vary, from frusta forms and apparent atypical to severe forms, accompanied by shock and the deterioration of the general condition.*

**Key words:** inflammatory, pain, vomia, hematemesis.

### **INTRODUCTION**

The first stages of acute pancreatitis have been described by Dieulafoy in 1906 and the prominence of hyper amylasemia in the attacks of acute pancreatitis is shown by Elman in 1927.

Since then and until nowadays the clinical and experimental research established the acute pancreatitis although there are still some uncertainties. We can talk about a severe a priori affection which in the language of Mondor receives the dimensions of an “abdominal catastrophe”, the abdominal drama for Dieulafoy, whose diagnostic remains difficult for the internship doctor who has only a few elements to determine with precision the anatomic clinical form and the prognosis of the disease. In spite of the reanimation, the diversity and the frequency of the complications limits the success of therapy.

The inflammatory injuries of the pancreas received the common denomination of pancreatitis.

The pancreatitis have in different degrees more elementary injuries from which the main are: edema, inflammatory infiltration, the bleedings, the necrosis, the exocrine parenchyma atrophy, which can pass through different stages of differentiation, especially the canalicular one, the evolutional multifocus sclerosis, injuries associated as citostatik necrosis, calcifications with canalicular starting points, injuries of the vessels and of the nerves, the destruction of the endocrine parenchyma.

### **CLINICAL ASPECTS IN ACUTE PANCREATITIS.**

In acute pancreatitis the clinical picture can vary, from frusta forms and apparent atypical to severe forms, accompanied by shock and the deterioration of the general condition.

The beginning in acute pancreatitis is very violent, usually is correlated with an alimentary moment as is an alimentation rich of fats and alcohol.

The pain is the main element of the semeiology, classically described by the old semiologists as having a localization in the epigastrium and irradiation in the bar, respectively in the right and left hypocondrium, aspect corresponding to the transversal development in the upper abdominal floor of pancreatic gland.

The pain has a great intensity even from the beginning, usually accentuated by the breathing and could last hours or days, being very resistant to medication and needing frequent antalgic positions.

Also, can appear nausea and vomit which are described in the clinical picture of acute pancreatitis, leading to the aggravation of the general condition of the patient, especially by the loss of the liquids and the determined hydroelectrolytic fluids.

The appearance of the hematemesis has a severe signification, the hemorrhagic acute gastritis being a severe complication in the evolution of this disease.

The deterioration of the intestinal transit appears in the acute pancreatitis because of the embedment in the inflammatory process of the first jejunal ansa and the left half of the transverse colon but also of the consecutive gastric intestinal generalized paresis.

There are situations when the stopping of the transit is replaced by diarrhea having the aspect of aqueous or unctuous fluid. In this last situation they show an exocrine pancreatic insufficiency. The appearance of the melena or hematochezia represents an element of gravity in the evolution of a pancreatitis.

Sometimes in acute pancreatitis could appear the undericterus or the icterus which is caused by compression on the coledoc of a marked edema at the level of the cephalic pancreas. The characteristic is its remission under treatment less for the cases where the pancreatitis appears as a consequence of a calculus in the papilla. In these situations the icterus is accentuated progressively in spite of medication, sometimes being difficult to be eliminate clinically a suspicion of pancreatic neoplasia.

Also the fever can be present from the beginning of the disease, with modest values, being the consequence of the enzymes' activation.

In the case of a high fever that appeared a few days from the beginning of an acute pancreatitis we could suspect a pancreatic abscess or an over infected necrosis, the computerized tomography or the magnetic resonance being in these situations mandatory explorations.

In case of the presence of the enzymes' intoxication in the severe forms of pancreatitis will lead to affections of the neuro psychical condition with a severe prognosis.

Clinically, the agitation or the obtundation, the conditions of confusion or anxiety could define the pancreatic encephalopathy picture difficult to be interpreted sometimes especially for the etilic patients who have also delirium tremens or other manifestations of withdrawal. The shock in the acute pancreatitis appears in the severe forms, being caused by the dismissal of vasoactive and hypotensive substances as histamina and bradikina, with bleeding and escape of the blood respectively of the plasmatic proteins in the retropancreatic tissues.

After a certain interval of beginning when the values of the tension are normal or even a little bit increased in the evolution, the patient develops an arterial hypotension with bradycardia or tachycardia, the values of these parameters having high variations at the successive examinations in the dynamics, element of gravity in the evolution of a pancreatitis.

#### ***THE LOCAL CLINICAL EXAMINATION.***

In the acute pancreatitis after an inspection we could highlight a meteorised abdomen in variable degrees which participate at the respiratory movements and the palpation shows a diffuse sensibility, especially in the upper abdominal floor.

Most of the times the patient comes to the examination in the dorsal decubitus, with the hips flexed in the abdomen, antalgic position that could be seen in other abdominal affections.

In the severe forms, the patient could present an area with periombilical echimotic aspect (the sign of Cullen) or a blue red color on the flanks, both being determined by the presence of a hemoperitoneum.

Other times the abdomen appears flat and immobile, a situation when frequently appears the necessity of a differential diagnosis with a peritonitis, especially in the cases when the palpation shows signs of peritoneal irritation.

If the pancreatic process lead to the formation of a visceral block, the palpation of the upper abdomen will show a pseudotumoral mass, inaccurate delimited in the tegument.

For the percussion we could highlight an area of central abdomen matite as a consequence of a paresis of the transverse colon, this being less specific in the diagnosis of the acute pancreatitis. The hepatic matite appears as a constant, element of clinical differential diagnosis with an eventual perforation of the organ. In case of the deceleration of a declive matite on the flanks, we could discuss about the appearance of a pancreatic loose, its

nature could be highlighted by an eventual abdominal puncture with the harvest of fluid and consecutive enzymatic determinations.

If listened it shows a decrease to disappearance of the intestinal peristaltic, as a consequence of the gastric intestinal paresis specific for the process of pancreatitis.

The rectal and vaginal touch could confirm, besides the percussion, the existence of an eventual pancreatic overflow.

Regarding the general condition of the patient, it could be relatively good in easy forms, with an auto-limited evolution or profound altered in the severe forms, especially those accompanied by shock. The patient with pancreatic shock has intense abdominal pain, is agitated, without an antalgic, polipneic position and with cold exudation.

The general condition is altered progressively, with hypo tension and sometimes bradycardia, aspect of significant gravity.

At the International Symposium from Atlanta, in 1992, it was created a classification of the acute pancreatitis, being divided in average forms, edematosis or interstitial and severe forms with not favorable evolution, with pancreatic necrosis in evolution and a high risk of local complications.

The mortality in average forms is of 1%, while in the severe forms it appears in 20-30%.

#### ***THE PURPOSE OF THE PAPER.***

The purpose of this paper is to evaluate the acute pancreatitis from the clinical point of view and of the diagnosis.

#### **MATERIALS AND METHOD**

For this paper we made a study with a group of 50 patients from the total of 269 of patients from the Surgery section of Clinical County Hospital from Oradea in the period of 2005-2009.

#### **RESULTS AND DISCUSSIONS.**

In acute pancreatitis the clinical picture can vary, from frusta forms and apparent atypical to severe forms.

The beginning in acute pancreatitis is very violent, usually is correlated with an alimentary moment as is an alimentation rich of fats and alcohol.

The pain is the main element of the semeiology, classically described by the old semiologists as having a localization in the epigastrium and irradiation in the bar, respectively in the right and left hypocondrium,

aspect corresponding to the transversal development in the upper abdominal floor of pancreatic gland.

The pain has a great intensity even from the beginning, usually accentuated by the breathing and could last hours or days, being very resistant to medication and needing frequent antalgic positions.

Statistically speaking the pain was present in 100% of the 269 patients, respectively the 50 patients from the study.

Also, can appear nausea and vomit which are described in the clinical picture of acute pancreatitis, leading to the aggravation of the general condition of the patient, especially by the loss of the liquids and the determined hydroelectrolytic fluids, being present for 95% from the total of 269 of patients from the Surgery section of Clinical County Hospital from Oradea.

In the casuistry the vomit was present for 94% from the total of 269 of patients from the study.

The report between the two genders males/females is very close namely 1,2/1. The vomit appears most frequently in the cases of biliary pancreatitis namely 96% from the total of 25 and 94% from the total of 15, appears in alcoholic pancreatitis and in idiopathic pancreatitis appears in 92% from the total of 8 patients.

The deterioration of the intestinal transit appears in the acute pancreatitis because of the embedment in the inflammatory process of the first jejunal ansa and the left half of the transverse colon but also of the consecutive gastric intestinal generalized paresis.

In the casuistry the meteorism is present for 82% from the total of 50 patients.

Muscular protection is present for 18% from the group of 50.

From the point of view of the general condition, the "pancreatic" characteristic facies is hyperemic, anxious, tumid, with perioral cyanosis and is helpful for the diagnosis far from being constant. This sign is present for 38% from the total of 12 patients and 48% of the 8.

An important clinical parameter is the temperature which offers data regarding the evolution of the patient, of the favorable or not favorable response to the therapy and in consequence the change of the treatment. To receive important data the temperature should be taken twice a day. This way we could follow the initial average, the minimum, maximum temperature and the same parameters in their maximum context, both types considering the etiology and the degree of pancreatic alteration, respectively between the edematous forms and the necrotic one.

Table 1

Acute pancreatitis		Initial temperature			Maximum temperature		
		minimum	maximum	average	minimum	maximum	average
biliary	Edema						
	Necrosis	36,0	39,5	37,5	36,9	39,1	38,4
alcoholic	Edema	36,3	38,6	37,3	37,4	40,2	39,3
	Necrosis	36,4	39,0	37,4	36,5	39,4	37,9
		36,6	40,0	37,6	36,7	41,1	39,2

The initial average and maximum values are the same in biliary and alcoholic pancreatitis, not matter the injured layer but in the late forms, the values of the temperature for the patients with alcoholic pancreatitis and necrotic pancreatitis are over the values of the patients with biliary pancreatitis. The average values, on the other hand, in the edematous forms are higher for those with biliary pancreatitis.

For the acute pancreatitis there can be seen significant changes of the maximum, minimum and average values of the arterial tension.

For the group of 50 patients from the study we observed the maximum, minimum and average values of the arterial tension without clinical signs of shock. In this group were patients with biliary, alcoholic pancreatitis, respectively edematous and necrotic forms. The arterial tension has been considered in the admission and 48 hours before respectively 48 hours after the admission.

Table 2

TA mmHg	Biliary acute pancreatitis	Alcoholic acute pancreatitis	Edema	Necrosis
Maximum	142	150	158	140
Minimum	55	40	53	40
No. cases	93	86	91	85

The maximum values in biliary acute pancreatitis and in those edematous are over those from the category of alcoholic acute pancreatitis, respectively those biliary. The differences between the minimum values are not very important.

The cardiac frequency has been taken into consideration even from the moment of the admission, being considered in the normal limits between 70-109/minute, in conformity with the Apache II system of prognosis.

From the statistic point of view the following registered values were considered:

- the extreme limits of 50, respectively 135 heartbeats per minute and an average of 86 heartbeats per minute were underlined
- in the edematous pancreatitis the average was of 92 heartbeats per minute and in the necrotic pancreatitis there were 86 heartbeats per minute registered
- in biliary pancreatitis in opposition to the necrotic ones, the cardiac frequency was not significant, thus from the total group of 50 cases from the study the following values were registered:

for 48 patients there were values between 75-110 heartbeats per minute registered, for 9 patients there were values of 70 heartbeats per minute registered and for 17 patients there were values of 110 heartbeats per minute registered.

Also it was considered the respiratory frequency for which it has been registered for all the group 13-32/minute with an average of 22/minute.

It was registered a respiratory frequency of over 25/minute mostly for the cases of necrotic pancreatitis and a not so much for the patients with edematous pancreatitis.

Such a respiratory frequency of over 25/minute is considered a sign of unfavorable prognosis.

At the moment of admission the condition of shock was present only for 8 patients, 4 of them with biliary pancreatitis, 3 with alcoholic pancreatitis and 1 patient with post surgical pancreatitis.

Regarding the evolution it was favorable in 7 of cases, from the 8 cases, 4 being operated, 3 responded positively at the treatment, while 1 patient died in spite of taking the treatment intensively in emergency.

#### **CONCLUSIONS.**

1. The pain is the main element of the semeiology, being associated as an incidence with biliary alimentary vomit.
2. The abdominal meteorism is predominant in the edematous forms and in biliary pancreatitis while the muscular protection is present in the necrotic pancreatitis without being influenced by the etiology of the disease.
3. In necrotic pancreatitis, the values of the temperature are higher then in the edematous pancreatitis.
4. The variance of temperature is influenced by the biliary affections and by the appearance of the complications.
5. The arterial tension is much higher in necrotic pancreatitis then in edematous pancreatitis.
6. In acute pancreatitis, the shock does not present clinical and therapeutical peculiarities but the late shock, septic is an important cause of mortality.

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