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Commentary

COVID-19 and the Pancreas: surfing on the wave

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Introduction

New coronavirus infection has been originally reported to be associated with exposure to the seafood market in Wuhan and then spread to more than 100 countries and led to tens of thousands of cases within a few months [1]. On March 11 2020, the World Health Organization (WHO) has officially declared the outbreak of COVID-19 as pandemic [1].

Key words

COVID-19; Gastrointestinal system; Acute Pancreatitis.

Does Pancreas Involved in Novel Coronavirus (SARS-CoV-2)-Infected Pneumonia (COVID-19)?

Gastrointestinal manifestation of COVID-19 has well established [1]; COVID-19 involves also liver and biliary tract [2]. It has been recently published the first report on pancreatic involvement in patients with novel coronavirus (SARS-CoV-2)-infected pneumonia (COVID-19) [3].

In brief, the authors enrolled 52 patients with COVID-19 pneumonia in a single Institution and in a two months period. The COVID-19 was confirmed by detecting SARS-CoV-2 nucleic acid in throat swab samples using the RT-PCR assay method and serious infectious disease was defined having at least one of the following parameters: breathing rate ≥30/min and/or pulse oximeter oxygen saturation ≤93% at rest and/or ration of partial pressure of arterial oxygen to fraction of inspired oxygen ≤300mmHg. They defined pancreatic injury as any abnormality in amylase (normal range: 0-90 U/L) or lipase (0-70 U/L).

Among the 52 patients with COVID-19 pneumonia, 9 (17.3%) were considered having for pancreatic injury.

The nine patients with pancreatic injury had an average age of 55 years (range 25-71 years) and five patients had underlying diseases such as hypertension, diabetes and heart disease. Four patients were diagnosed having serious illness on admission and seven patients received corticosteroid therapy, and one was treated with mechanical ventilation. Compared with the patients without pancreatic injury, those with pancreatic injury had a higher incidence of anorexia and diarrhea, severe illness on admission, lower level of CD3+ T-cell and CD4+ T-cell, higher level of AST, GGT, creatinine, LDH and ESR.

Discussion

The report is interesting because for the first time serum pancreatic enzymes were evaluated in COVID-19 patients. However, we would remember that the pancreatic involvement has not been considered; in fact, acute pancreatitis is defined according to the modified Atlanta criteria as the presence of persistent pain, increase in serum pancreatic enzymes [4] and the severity should assessed according to the APACHE II score [3]. In the paper of Wang et al. [3] only the serum levels of amylase and lipase have been reported and the values were lower of at least 5-fold increase that are those required for confirming the pancreatic origin of pain and therefore the clinical diagnosis of acute pancreatitis [5]. In the paper of Wang et al. [3], patients with suspicion of pancreatic injury had a higher incidence of diarrhea and severe illness on admission; these two condition are common causes of pancreatic hyperenzimemia as found in patients with diarrhea due to salmonella infection and in those with septic shock and without clinical and morphological signs of pancreatic injury [6,7]; on contrary, diarrhea is uncommon in acute pancreatitis. Finally, in 78 patients with chronic liver diseases due to HCV or HBV infection we found that serum amylase levels were abnormally elevated in 27 patients (35%; 22 liver cirrhosis, 5 chronic active hepatitis), whereas serum lipase levels were elevated in 16 patients (21%; 15 liver cirrhosis, 1 chronic active hepatitis) suggesting that viral infection may increase serum pancreatic enzymes without morphological alterations of the pancreatic gland [8]. Also in other viral infections hyperenzimemia can be found as in mumps and HIV [9,10]. Probably, more stringent criteria should be considered to evaluate the possible acute pancreatic involvement in patients with COVID-19. Regarding the suggestion of the authors that direct viral involvement of the pancreas may cause mild pancreatic injury, we believe that only pathological findings may answer to this key question. At present, we can conclude that COVID-19 is the cause of pancreatic hyperenzymemia; on the other hand, acute pancreatic involvement in these patients should be better defined and requires studies that are more appropriate.

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References

1. Pezzilli R. COVID-19 and gastrointestinal involvement. J Allergy Ther 2020; 11:1000291.
2. Zhao XY, Xu XX, Yin HS, Hu QM, Xiong T, Tang YY et al. Clinical characteristics of patients with 2019 coronavirus disease in a non-Wuhan area of Hubei Province, China: a retrospective study. BMC Infect Dis. 2020;20:311.
3. Wang F, Wang H, Fan J, Zhang Y, Wang H, Zhao Q. Pancreatic injury patterns in patients with COVID-19 pneumonia. Gastroenterology.
4. Banks PA, Bollen TL, Dervenis C, Gooszen HG, Johnson CD, Sarr MG, et al. Acute Pancreatitis Classification Working Group. Classification of acute pancreatitis–2012: revision of the Atlanta classification and definitions by international consensus. Gut 2013;62:102-111.
5. Pezzilli R, Zerbi A, Campra D, Capurso G, Golfieri R, Arcidiacono PG et al. Consensus guidelines on severe acute pancreatitis. Dig Liver Dis 2015;47:532-543.
6. Pezzilli R, Morselli-Labate AM, Barakat B, Romboli E, Ceciliato R, Piscitelli L et al. . JOP 2003;4:200-206.
7. Pezzilli R, Barassi A, Imbrogno A, Fabbri D, Pigna A, Morselli-Labate AM, et al. Is the pancreas affected in patients with septic shock? A prospective study. Hepatobiliary Pancreat Dis Int 2011;10:191-195.
8. Pezzilli R, Andreone P, Morselli-Labate AM, Sama C, Billi P, Cursaro C et al. Serum pancreatic enzyme concentrations in chronic viral liver diseases. Dig Dis Sci 1999;44:350-355.
9. Havlíčková M, Limberková R, Smíšková D, Herrmannová K, Jiřincová H, Nováková L et al. Mumps in the Czech Republic in 2013: Clinical Characteristics, Mumps Virus Genotyping, and Epidemiological Links. Cent Eur J Public Health 2016;24:22-28.
10. Pezzilli R, Gullo L, Ricchi E, Costigliola P, Sprovieri G, Pilati G et al. Serum pancreatic enzymes in HIV-seropositive patients. Dig Dis Sci 1992;37:286-288.