



C-Reactive Protein Levels Together with the Ranson Scoring System to Differentiate the Mild and Severe Forms of Acute Pancreatitis

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See "Başak F. et al. Can C-reactive protein levels increase the accuracy of the Ranson score in predicting the severity and prognosis of acute pancreatitis? A prospective cohort study" on page: 207

It is important to differentiate the mild and severe forms of acute pancreatitis (AP) at the earliest with a high level of accuracy to decrease the morbidity and mortality rates of AP. For this, there are various scoring methods based on clinical and laboratory parameters together with radiological data specifically obtained via contrast-enhanced computed tomography (CT). There are several commonly used prognostic scoring systems for AP such as Ranson, Glasgow, APACHE II (acute physiology and chronic health status), and BISAP (bedside index for severity in AP). Like the rest of them, the Ranson criteria still holds their value and can fail in the differentiation of mild forms of AP from severe ones. We still need to have cheap, easily applicable, and widely available tests to differentiate the mild and severe forms of AP as early as possible with a high accuracy.

One of the first acute-phase reactants rising in level in our body during every kind of inflammation and/or infection is the C-reactive protein (CRP). This test is one of the widely available, non-invasive, and easily applicable tests that is a highly valuable prognostic indicator in patients with AP. After the 1980s, there have been many reports published in the literature underlying role of CRP for determining the severity of AP with or without the help of the Ranson scoring system (1). The present article (2) reminds us that the potential value of CRP and that the results of this paper are important as these results can stimulate most physicians worldwide dealing with AP to routinely use this marker. Although the level of CRP has been shown by many reports to determine the severity of AP, the cutoff level of CRP to differentiate the mild and severe forms have been reported to significantly vary. Moreover, rather than using CRP levels with scoring methods to improve their prognostic value, there are many reports in the literature that

aimed to compare CRP levels with these scoring methods (3-5). One of these reports indicated that CRP levels are valuable for determining the degree of necrosis as early as possible with a similar sensitivity and specificity to the other scoring methods (5).

The cutoff level for CRP was considered as 150 mg/dL in the present article (2), and this level was used in other reports including Vinish et al. (6); this level was found to correlate very well with other scores, including BISAP, HAPS, and SIRS results. Additionally, CRP levels higher than 150 mg/dL have been reported to indicate the presence of pancreatic necrosis and peri-pancreatic fluid accumulation as shown in CT images taken 72 h after the onset of AP (6). In the present article, the authors compared four groups of patients with AP according to Ranson score and CRP levels to differentiate the mild and severe forms of AP: 1: Group 1: Ranson score ≥ 3 , Group 2: CRP level ≥ 150 mg/L, Group 3: Ranson score ≥ 3 and CRP level ≥ 150 mg/L, and Group 4: Ranson score ≥ 3 or CRP level ≥ 150 mg/dL. The authors concluded that patients in group 3 had the highest accuracy (92%) among those in the other groups (Group 1: 80%, Group 2: 88%, and Group 4: 76%) for making a differentiation between the mild and severe forms of AP. As the authors have indicated, they did not exclude patients with commonly encountered situations such as those with acute cholangitis and cholecystitis from the study group. The combination of a Ranson score of ≥ 3 with a CRP level of ≥ 150 mg/dL in Group 3 was understood to be more valuable and accurate than only CRP level elevation in the setting of existing acute biliary and or gall bladder inflammatory pathologies.

Another important point with CRP is that although it is one of the earliest acute-phase reactants that increases

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in level, CRP level higher than 170 mg/dL at 48 hours has been reported to be more valuable for predicting severe acute pancreatitis and pancreatic necrosis than CRP level measurements at any time before 48 hours (7). Further, the importance of CRP lies in its value for predicting the healing of acute pancreatic inflammation as follow-up CRP levels will correctly reveal which patients will develop complications or which will heal uneventfully (7). As shown in the present article, we believe that combining serum CRP level measurements taken at 48 h and later will improve the Ranson scoring system for having a higher accuracy for the differentiation of the mild and severe forms of AP.

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