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Name of Journal: *World Journal of Clinical Cases*

Manuscript NO: 80308

Manuscript Type: LETTER TO THE EDITOR

Incidence and clinical treatment of hypertriglyceridemic acute pancreatitis: Few issues

Yang QY *et al.* Comments on HTG-AP

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Abstract

Hypertriglyceridemia is a well-recognized ²etiology of acute pancreatitis and the incidence of hypertriglyceridemic acute pancreatitis (HTG-AP) has increased in frequency worldwide in response to lifestyle changes. ⁵It is crucial to identify hypertriglyceridemia as the cause of pancreatitis and initiate appropriate treatment. Insulin ³treatment produces effective lowering of triglycerides, but in our opinion, non-diabetic patients with HTG-AP require separate consideration to avoid hypoglycemia.

Key Words: Hypertriglyceridemic acute pancreatitis; Incidence; Etiology; Insulin

Yang QY, Zhao Q, Hu JW. Incidence and clinical treatment of hypertriglyceridemic acute pancreatitis: Few issues. ³*World J Clin Cases* 2022; In press

Core Tip: This is a comment on an article concerning incidence and clinical characteristics of hypertriglyceridemic acute pancreatitis (HTG-AP). We believe that the risk of hypoglycemia must be considered and described for non-diabetic patients with HTG-AP receiving insulin infusion to decrease serum triglyceride level.

TO THE EDITOR

We read with really great interest the article published by Lin *et al*^[1], which retrospectively analyzed the incidence and clinical characteristics of 371 patients with hypertriglyceridemic acute pancreatitis (HTG-AP) in their hospital over the past 10 years. It is worthy to pay more and more attentions due to HTG-AP is often associated with persistent organ failure and a poor prognosis^[2]. The authors concluded that the incidence of HTG-AP was significant increase and patients with mild and moderately severe acute pancreatitis can be treated with insulin safely and effectively. However, in our opinion, there are several viewpoints in this study that merit further discussion.

First, the Introduction section states that the incidence and mortality of HTG-AP have surpassed alcohol to become the second leading cause of AP in China. It is worth reflecting on this statement further. This viewpoint contradicts the conclusions of its cited reference^[3] in the article, which concludes that hypertriglyceridemia is a relatively uncommon (9%) cause of acute pancreatitis but that patients with hypertriglyceridemia have a high (14%) incidence of acute pancreatitis. The reference does not support their viewpoint.

Second, the majority of recent studies indicate hypertriglyceridemia is the third most common etiology of acute pancreatitis, secondary to gallstones and alcohol abuse^[4-6]. A multi-center 5 years study^[7] on the etiology of acute pancreatitis in Beijing found that alcoholic and HTG-AP were higher in patients below 50 years and biliary pancreatitis was higher in patients over 70 years, so we think it may be different etiology proportion of AP according to age, sex, and severity. The morbidity of HTG-AP has increased at a fast rate in recent years, but its ranking is controversial.

Third, the Results section states that the serum triglyceride levels of patients with mild and moderately severe acute pancreatitis had significantly decreased by intravenous insulin without hemoperfusion. However, we believe further explanation regarding the method and safety of intravenous insulin is necessary. There are no current guidelines for the management of HTG-AP, although rapid reduction of triglyceride level is considered an important therapeutic goal. Insulin, heparin, plasma exchange and

hemoperfusion are the most frequently reported therapies^[8-11]. Insulin has been deemed the sole hypoglycemic hormone in mammals since its discovery in 1921. Continuous administration of exogenous insulin achieved normoglycemia and corrected severe hypertriglyceridemia in all type 2 diabetes patients presenting with severe hypertriglyceridemia and hyperglycemia^[12]. However, the risk of hypoglycemia for non-diabetic patients needs to be considered, appropriate insulin infusion doses, frequent blood glucose checks and concomitant glucose infusion implemented are needed. The current available literatures on this topic are scarce and largely consist of single case report, ⁴empirical initiation of a higher dextrose concentration infusion with glucose level titrations should be considered to avoid hypoglycemia^[13,14].

Fourth, we agree with this statement that increased TG levels directly affected the determination of amylase. Spuriously, low plasma amylase has been noticed in presence of lactescent plasma, which affects the expression of biomarkers used for the follow-up of the acute pancreatitis episode^[15]. Visual examination of plasma represents a simple clinical sign, allowing the identification of severe hypertriglyceridemia at low cost.

In the end, this observational study can provide a reference for clinical practice, but the number of cases used for propensity score matching was relatively small, which possibly affected the statistical power. We believe that the diagnosis rate and therapeutic efficacy of HTG-AP merit further studies to improve.

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