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Patient Experiences Of Acute Pancreatitis Due To Hypertriglyceridemia

Hipertrigliseridemiye Bağlı Akut Pankreatit Hasta Deneyimleri

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Abstract

Introduction: Hypertriglyceridemia is also involved in the etiology of acute pancreatitis. Hypertriglyceridemia in addition, plasmapheresis in acute pancreatitis triggered by and/or different treatments such as heparin therapy can be applied.
Objective: The aim of our study was to share our experience with the treatment, clinical course, and demographic features of patients with acute pancreatitis related to hypertriglyceridemia and the effectiveness of plasmapheresis.
Method: Patients admitted to the service with the diagnosis of acute pancreatitis in Ankara Atatürk Sanatorium Training and Research Hospital Gastroenterology Clinic between 01 January 2018 and 31 December 2022 were retrospectively screened. Triglyceride level of 800 mg/dl and above at the time of first admission to our hospital.
Results: A total of 12 patients were included in the study. The mean age of the patients was 52.8, 5 patients were male and 7 patients were female. 9 of the patients had acute pancreatitis due to hypertriglyceridemia for the first time ; 3 of them, 2 acute pancreatitis attacks had passed. Half of the patients had a body mass index above 30. Diabetes was observed in 7 patients in their history. 5 patients had previously diagnosed hyperlipidemi.
Conclusion: Acute pancreatitis due to hypertriglyceridemia early recognition is important to reduce the morbidity and mortality associated with this disease. Plasmapheresis can be used safely in these patients with a low side-effect profile. Since plasmapheresis may reduce the severity of pancreatitis in progressive pancreatitis, it should be used in the early period.

Keywords: Hipertrigliseridemia, Acute Pankreatitis, Plasmaferesis.

Özet

Giriş: Akut pankreatit etiyolojisinde hipertrigliseridemi de yer almaktadır. Akut pankreatitin tetiklediği hipertrigliseridemi yanında plazmaferez ve/veya heparin tedavisi gibi farklı tedaviler uygulanabilir.
Amaç: Biz bu çalışmamızda hipertrigliseridemiye bağlı oluşan akut pankreatitli hastalarımızın demografik özelliklerini, pankreatitlerinin seyrini, uygulanan tedavi yöntemlerini ve plazmaferezin etkinliğini araştırdık.
Yöntem: Ankara Atatürk Sanatoryum Eğitim ve Araştırma Hastanesi Gastroenteroloji Kliniği'nde 01 Ocak 2018-31 Aralık 2022 tarihleri arasında akut pankreatit tanısı ile servise başvuran hastalar retrospektif olarak tarandı.
Bulgular: Çalışmaya toplam 12 hasta dahil edildi. Hastaların yaş ortalaması 52,8 olup, 5 hasta erkek, 7 hasta kadındı. 9 hastada ilk kez hipertrigliseridemiye bağlı akut pankreatit gelişti; 3'ü, 2'si akut pankreatit atağı geçmişti. Hastaların yarısının vücut kitle indeksi 30'un üzerindeydi. Özgeçmişinde 7 hastada diyabet gözlendi.5 hastada daha önce hiperlipidemi tanısı konmuştu.
Sonuç: Hipertrigliseridemiye bağlı akut pankreatit te erken teşhis, bu hastalıkla ilişkili morbidite ve mortaliteyi azaltmak için önemlidir. Yan etki profili düşük olan bu hastalarda plazmaferez güvenle kullanılabilir. Progresif pankreatitte plazmaferez pankreatit şiddetini azaltabileceğinden erken dönemde kullanılmalıdır.

Anahtar kelimeler: Hipertrigliseridemi, Akut Pankreatit, Plazmaferez.

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INTRODUCTION

Acute pancreatitis (AP) is an acute inflammatory disease of the pancreas. Gallstones and alcohol are the most common causes of acute pancreatitis. However, infectious many different agents can cause acute pancreatitis (1). Hypertriglyceridemia is also involved in the etiology of acute pancreatitis. Acute pancreatitis is self-limited in 80% of cases.

While it is observed as mild or edematous pancreatitis limiting the disease, it is observed in the severe form in which pancreatic necrosis and local complications are observed in 20% of cases (2). Etiological early in treatment, regardless of cause proper parenteral hydration is essential. Hypertriglyceridemia in addition, plasmapheresis in acute pancreatitis triggered by and/or different treatments such as heparin therapy can be applied (3). In this study, we evaluated acute hypertriglyceridemia related our cases with pancreatitis, laboratory and clinical features. We aimed the prognosis and the effectiveness of the applied plasmapheresis treatment.

METHOD

This study was planned as a retrospective study and carried out with the permission of Ankara Atatürk Sanatorium Educational and Research Hospital Ethics Committee (Date: 10.04.2023, Decision No: 2023-50). All procedures were carried out in accordance with the ethical rules and the principles of the Declaration of Helsinki. Patients admitted to the service with the diagnosis of acute pancreatitis in Ankara Atatürk Sanatorium Training and Research Hospital Gastroenterology Clinic between 01 January 2018 and 31 December 2022 were retrospectively screened. Triglyceride level of 800 mg/dl and above at the time of first admission to our hospital. Patients were considered to have acute pancreatitis due to hypertriglyceridemia in the absence of other etiologic causes. These patients from the patient files and hospital automation system to the treatments and clinical course they received reached during their hospitalization, patients demographic and biochemical data. Plasmapheresis was performed with albumin or plasma.

Statistical Analysis

SPSS 21.0 for statistical analysis Windows program used. Descriptive statistical methods(mean,standard) were used.

RESULTS

A total of 12 patients were included in the study. The mean age of the patients was 52.8, 5 patients were male and 7 patients were female. 9 of the patients had acute pancreatitis due to hypertriglyceridemia for the first time; 3 of them, 2 acute pancreatitis attacks had passed. Half of the patients had a body mass index above 30. Diabetes was observed in 7 patients in their history.5 patients had previously diagnosed hyperlipidemia. No statistically significant result could be obtained ($p>0,05$). The demographic data of the patients are summarized in Table 1.

Since the first biochemical examination of all blood taken at the time of admission to the hospital was serum lipemic could not be done and blood was required to be taken from the patients for the second time. Average amylase 415.6 U/L, average lipase value measured at 263.4 U/L. When the lipid profiles of the patients are examined, the mean triglyceride level is 1046.4 mg/day dl, total cholesterol level 453.6 mg/dl, mean high density lipoprotein (HDL) level as 123.8 mg/dl measured. The mean serum low differential lipoprotein (LDL) level was measured as 120 mg/dl. The laboratory data of the patients are given in Table 2.

Table 1. Demographic Data of Patients

Demographic Data of Patients		
Variables		**Numbers**
Age		52,8
Gender (Male/Female)		5/7
BMI	BMI>30	6
	BMI<30	6
Diabetes Mellitus		7
Hyperlipidemia		5
Number of Patients Who Underwent Plasmapheresis		3
Number of Plasmapheresis		1,33(1-2)
Number of Attacks		1,25(1-2)

Table 2. Laboratory Data of Patients

Laboratory Data of Patients	
Laboratory Values	**Average**
Glucose	153(77-322)
ALT	32(10-123)
AST	60(15-294)
ALP	72,4(24-95)
GGT	84,6(10-124)
Total bilirubin	0,92(0,32-3,4)
Direct bilirubin	0,26(0,1-1,43)
Amylase	415,6(26-1254)
Lipase	263,4(42-3368)
Triglyceride	1046,4(910-1955)
Total Cholesterole	453,6(260-878)
HDL	123,8(29-386)
LDL	120(22-180)
CRP	141,6(9,2-391)
Sedimantation	94(21-112)

First for all patients oral intake was discontinued from admission and appropriate and adequate intravenous hydration was given. However, patients plasmapheresis was applied in 3 of them. No complications occurred during plasmapheresis in any of the patients.

DISCUSSION

Acute pancreatitis severity due to hypertriglyceridemia is observed with a frequency of 1-4% among all etiological causes (4-5). In these patients, the complaint on admission is due to other etiological reasons abdomen, similar to acute pancreatitis pain, nausea and vomiting (6). Acute pancreatitis with hypertriglyceridemia in a patient presenting with a lipemic appearance and/or normal amylase raises suspicion (7). Characteristics such as having a history of hyperlipidemia, use of beta-blockers that can cause secondary hypertriglyceridemia, and alcohol use (8). It also suggests hypertriglyceridemia as an etiological cause in patients presenting with acute pancreatitis. On physical examination eruptive xanthomas and lipemia retinalis triglyceride level Occurs when it exceeds 2000 mg/dl (9). Plasmapheresis is an important part of the treatment of hypertriglyceridemia. Triglycerides themselves are not toxic; however, it is a source of unsaturated fatty acids. Unsaturated increased production of

fatty acids with the aid of pancreatic lipase may lead to a more severe course of pancreatitis (10). From this point of view, removal of plasma triglycerides by plasmapheresis will reduce the severity of the disease and it is considered to have a positive effect on the course of the disease. Triglyceride level decreases rapidly with plasmapheresis (11-12). American Afaresis Society acute pancreatitis due to hypertriglyceridemia. In the treatment of plasmapheresis as a category III indication accepts . This means that the effectiveness of plasmapheresis is not fully demonstrated in patients (13). In studies in the literature, laboratory tests were performed in patients who underwent plasmapheresis appears to be better (14). However, plasmapheresis improves the course of the disease and improves its severity reducing effect has not been clearly demonstrated (15). Chen et al. in patients with acute pancreatitis due to severe hypertriglyceridemia. They did not find any difference in terms of complications and mortality in patients who underwent plasmapheresis and those who did not (16).

CONCLUSION

As a result, acute pancreatitis due to hypertriglyceridemia early recognition is important to reduce the morbidity and mortality associated with this disease. Plasmapheresis can be used safely in these patients with a low side-effect profile. Since plasmapheresis may reduce the severity of pancreatitis in progressive pancreatitis, it should be used in the early period.

Limitations of the Study

The limitations of this study are that it is single-centered and the number of patients is small. We think that studies with more patient data in more centers will yield more comprehensive results.

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Conflict of interest: The authors declare that they have no competing interests.

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