A Case Control Study of Hypertriglyceridemia Associated With Acute Pancreatitis

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Research Article

Abstract: In the present study the association increased Hypertriglyceridemia and Acute pancreatitis was studied. Total 30 patients with acute pancreatitis and 30 healthy adults were investigated. Serum triglyceride levels were found to be increased in patients with acute pancreatitis.

Keywords: Hypertriglyceridemia(HTG), Acutepancreatitis(AP)

Introduction

Acute pancreatitis is a condition characterised by painful inflammation in pancreas. It can be due to gallstones,alcohol consumption and increased TG will precipitate the episodes of acute pancreatitis. Increased in TG is a genetic defect but obesity, Diabetes Mellitus, high fat diet contribute to increase TG.[1]

Hypertriglyceridemia is 3rd most common cause ofacute pancreatitis.Hypertriglyceridemiais
defined as fasting serum TG level >150 mg/dl.

MildHTG 150 to 199 mg/dl
Moderate HTG 200 to 199 mg/dl
Severe HTG 1000 to 1999 mg/dl
Very severe HTG > 2000 mg/dl

Hypertriglyceridemia is considered as risk for pancreatitis when >1000 mg/dl. Early clinical recognition of Hypertriglyceridemia associated acute pancreatitis is extremely important to provide appropriate therapy and to prevent further episodes[3]

Materials and Methods

Following parameters were estimated
Serum Amylase
Serum lipase
Serum TG
Enzymatic method on dimension RXL

Observation and Result

50 patients with Acute pancreatitis and 50 healthy adults age and sex matched were investigated.

Group Statistics

			N	Mean	Std. Deviation	t-value	p-value
Amylase	dimension1	Control	30	589.2667	988.12058	2.97	P=0.007 S
		Cases	30	84.8333	26.37538		
Lipase	dimension1	Control	30	3498.9000	5067.65334	3.59	P=0.001 S
		Cases	30	179.4667	104.92090		
TG	dimension1	Controls	30	771.0667	492.29995	7.21	P=0.000 S
		Cases	30	121.8333	22.37468		

Significant increase in TG is seen in patients with acute pancreatitis as compared to control. Severity of acute pancreatitis increases with increase in TG. Statistically Significant correlation is observed between AP and HTG (p value is significant).

Discussion

Hypertriglycerimide denotes highly blood levels of TG. Increased TG is risk factor for Atherosclerosis, Cardiovascular diseases, acute pancreatitis and Xanthomas. Very high levels would increase the risk ofpancreatitis. Reduction of TG levels well below 1000 mg/dl effectively reduces further episodes ofpancreatitis. Pancreatitis secondary to HTG presents as an episode of acute pancreatitis or recurrent Acute pancreatitis, rarely as chronic pancreatitis.[5] A serum TG >1000 to 2000 mg % in patients with type 1, 4 and 5 hyper lipedemia is alsoa risk factor. When excessive TG rich lipoproteins are hydrolysed by high levels of pancreatic lipase, there is release of very high concentration of free fatty acids which exceeds the binding capacity of plasma albumin. This results in self aggregating free fatty acidsmicellar structures with detergent properties.The free fatty acids micelles injure the vascular endothelium and acinar cell of pancreas. This results in self-perpetuating ischemic acidic environment with resultant Toxicity.[6] Thus we can conclude that HTG do have relation with acute attack of pancreatitis.

References

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