



Specificity of Saag (Serum Ascitic Albumin Gradient) in the Differential Diagnosis of Ascitis

KEYWORDS

SAAG, Transdate, Exudate, Oncotic Pressure Gradient, Portal Hypertension

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ABSTRACT A method for the differentiation of transudate and exudates is studied by measuring SAAG i.e., Serum Ascitic Albumin Gradient. The study the superiority of SAAG over the traditional methods of analysing ascetic fluid as transdate and exudates. To determine the specificity of SAAG in the differential diagnosis of transdate and exudates.

INTRODUCTION :

SAAG is obtained by subtracting serum albumin from ascitic fluid albumin. This is physiologically based method and is a parameter of oncotic pressure gradient reflecting presence or absence of portal hypertension. SAAG is increased in portal hypertension ascetic cases. Decreased in – nonportal hypertensive cases.

Ascities associated with portal hypertension (PH) has high gradient SAAG i.e., > 1.1gm/dl where has Ascities associated with malignancy, Peritoneal inflammation has low gradient i.e., <1.1gm/dl.

Portal hypertension results in abnormally high hydrostatic pressure gradient between the portal bed and ascitic fluid. Albumin exerts more oncotic pressure than other proteins. The difference between serum and ascitic fluid correlates directly with portal hypertension.

Calculation of SAAG :

Serum albumin concentration	-	2.4gm/dl
Ascitic fluid albumin concentration	-	0.3gm/dl
Serum ascitic fluid albumin gradient	-	2.4-0.3 = 2.1gm/dl

This method of calculation of ascites places cirrhotic and cardiac patients in the transdate category, malignancy and peritonitis in exudates variety.

Table :

High Gradients Ascitis (>1.1gm/dl)	Low Gradients Ascitis (<1.1gm/dl)
Cirrhosis	Peritoneal carcinomatosis
Alcoholic hepatitis	2. Tuberculous peritonitis
Cardiac ascitis	3. Pancreatic ascitis
Budd – Chirari syndrome	4. Nephrotic syndrome
Portal vein thrombosis	5. Biliary ascitis

DISCUSSION :

Of the 50 patients studied most of them are 45-50yrs age group. 60% of them presented with chronic progressive disease. Most common symptoms being abdominal distension, odema feet weight loss. Ultrasound is excellent diagnostic stool having 100% accuracy. Sensitivity and accuracy of ascitic fluid protein are 65.6 and 68% respectively.

The mean SAAG is higher (1.72gm/dl) in portal hypertension than in non-portal hypertension patients (1.21gm/dl).

The sensitivity and specificity of SAAG in differentiation of portal form non-portal hypertension are 92 and 93% respectively. Transudative ascites (88%) more common than exudate ascites (12%). Among the transdate the leading cause is cirrhosis of liver (56%), alcoholic cirrhosis being the commonest than non alcoholic (44% vs 12%).

CONCLUSION :

For giving proper treatment it is necessary to understand the Pathophysiology of various diseases which cause ascitis. SAAG is found to be a convenient and easy method in differentiating the exudate from transdates. It for better than all the old traditional methods.

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