

Incidence of Thrombosis in Acute Pancreatitis

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Abstract:-

Aim- To assess the incidence of splanchnic vein thrombosis in patients with Acute Pancreatitis(AP).

Objective - To study the involvement of splenic vein(SV), portal vein(PV) and superior mesenteric vein(SMV) in a case of complicated acute pancreatitis.

Methodology- An audit of retrospectively collected data for all patients with AP was conducted. Patients with SMV were grouped according to the vessel involvement.

Result- Out of 107patients admitted with AP, 25 had Splanchnic vein thrombosis.Out of those 25 cases SV,PV,SMV was observed in 18,15,5 patients respectively. Involvement of more than one vessel was seen in 11 patients(SV and PV in 6 patients,PV and SMV in 3 patients; all the three veins involved in 2 patients).

Conclusion- Involvement of SV and PV is more common in splanchnic vein thrombosis than SMV. Involvement of all the three vessels is also a rare condition complicating AP.

Keywords:- AP, SV, PV, SMV.

Acute Pancreatitis and to calculate the percentage of involvement of SV,PV,SMV in splanchnic vein thrombosis.

II. METHODS

A retrospective analysis of prospectively collected data for patients with AP complicated by splanchnic vein thrombosis was conducted. Place of study was Saveetha Medical College and Hospitals, Chennai. Data were collected from March 2018 to October 2019 inclusive.

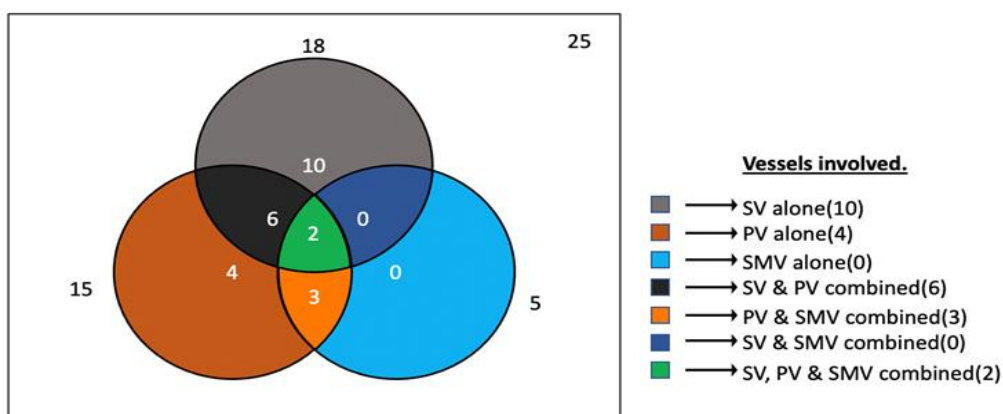
The severity of AP was assessed radiologically by contrast enhanced computed tomography(CECT). Clinical evidences were also taken into consideration, for example-acute abdominal pain requiring hospitalization. Imaging studies like CT, MRI, Doppler ultrasonography were used to diagnose venous complications. All the causes complications, treatment plans and management schedules were studied by recording the data pertaining to them. All the patients were screened for protein C and S deficiency.All patients who were anticoagulated have been regularly followed up and their recanalization rates were analysed.

I. INTRODUCTION

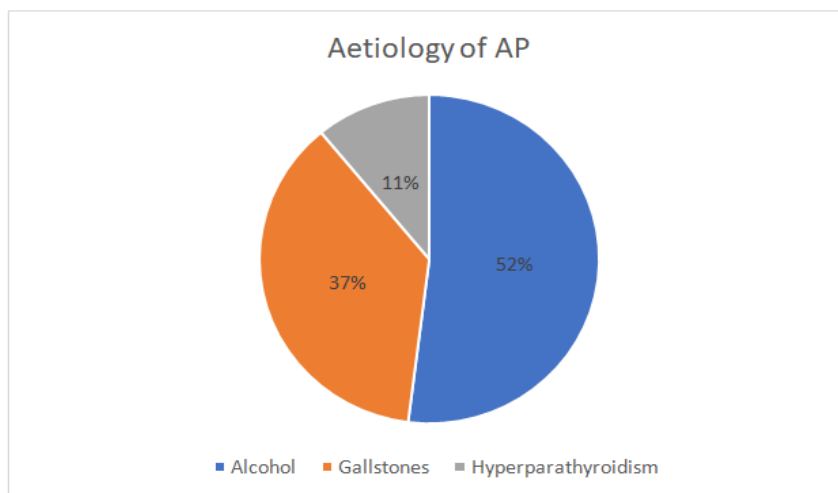
Splanchnic vein thrombosis is a vascular complication of pancreatitis involving the PV,SV and SMV separately or in combination^(1,2). Splanchnic vein thrombosis is associated with prothrombotic or hypercoagulable disorders, but a more direct inflammatory process has been implicated in the context of AP⁽³⁾.Although the natural history of splanchnic vein thrombosis in AP is unclear, increased occurrence of severe haemorrhage, bowel ischemia, portal hypertension and liver failure has been reported⁽¹⁾. Increased risk for haemorrhage may occur as a result of pseudoaneurysms. The aim of the present retrospective study is to assess the incidence of splanchnic vein thrombosis in patients with

III. RESULT

Out of 107 patients admitted with AP in Saveetha Hospitals, Chennai between March 2018 to October 2019. Severe attacks of AP were recorded in 38 patients(35.5%), all of whom had dynamic contrast-enhanced CT imaging at the time of their index admission. Splanchnic vein thrombosis was detected in 25 patients(23.3%) as a complication of severe attacks of AP.Out of those 25 cases SV,PV,SMV was observed in 18,15,5 patients respectively. Involvement of more than one vessel was seen in 11 patients(SV and PV in 6 patients,PV and SMV in 3 patients; all the three veins involved in 2 patients).



The aetiology of AP was alcohol related in 14 patients(52%), gallstones in 9 patients(37%), hyperparathyroidism in 4 patients(11%). The median age at presentation was 49.2 years(ranging from 34-77 years). The sample includes 15 women (60%) and 10 men(40%).



Patient	Vessel thrombosed	Colocalized collection	Anti coagulated	Recanalated
1	PV	Yes	Yes	Yes
2	SV,PV	Yes	Yes	Yes
3	SV	Yes	No	No
4	SV	Yes	No	Yes
5	SV,PV	Yes	No	No
6	SV,PV	Yes	Yes	No
7	PV	Yes	No	Yes
8	SV,PV	No	No	No
9	PV	Yes	No	No
10	SV	Yes	No	Yes
11	SV,PV	Yes	No	No
12	PV	Yes	Yes	No
13	SV	Yes	No	No
14	SV	No	No	No
15	PV,SMV	Yes	Yes	No
16	SV	Yes	No	Yes
17	PV,SMV	Yes	No	No
18	SV,PV	Yes	Yes	No
19	SV	No	No	No
20	SV	Yes	No	No
21	SV,PV,SMV	Yes	Yes	Yes
22	SV	Yes	No	Yes
23	SV,PV,SMV	Yes	No	No
24	SV	No	No	No
25	PV,SMV	Yes	No	Yes

Overall solely 7 patients were anticoagulated; of those, in barely 2 patients did the indication for medical aid disagree considerably from indications in those that weren't anticoagulated. All the anticoagulated patients had PV occlusion in whom the progression of occlusion into the

intrahepatic branches could cause impaired liver function(ascites). Out of the 25 patients, colocalized collections were ascertained in 21 patients. Work investigations for activity disorders were negative in all patients.

IV. FOLLOW UP AND OUTCOME

Recanalization was ascertained in 3 patients who received anticoagulation therapy and in 6 patients who did not receive anticoagulation therapy. Resolution was ascertained in 24 patients over a mean period of 92 days.

V. DISCUSSION

Splanchnic vein occlusion complicating acute attack of severe AP is unusual and contains a according incidence of 1–2%⁽²⁾. The foremost affected vessel is SV(72%) ; this involvement is also associated with its terribly shut proximity to the inflamed duct gland and is supported by a transparent association between peripancreatic inflammation and direct blood vessel compression by collections in eightieth of patients during this series⁽¹⁴⁾ and also the least usually concerned vessel is SMV(20%).

Splanchnic vein occlusion is also coupled to hereditary activity disorders, like deficits of super-molecule C or super-molecule S⁽⁷⁾ non-heritable coagulopathies like antithrombin III deficiency. Intra-abdominal inflammation related to AP itself could cause transient pro-coagulation disorders⁽⁸⁾. According to a recent Europe-wide, multi-centre, prospective study, treatment with medical aid is efficacious however contains a lower rate of resolution than intravascular infusion of thrombolytics⁽²⁾. Early diagnosing and treatment with anticoagulant medication and anti hemorrhagic factor antagonists allowed recanalization in concerning one third of patients, particularly in recently shaped thromboses⁽²⁾.

Within this study a higher rate of recanalization was determined amongst patients who received anticoagulation. However, the speed of recanalization determined in patients with splanchnic venous occlusion who didn't receive anticoagulation was like that within the anticoagulation arm of the EN-Vie study⁽⁵⁾. The role of medical care by giving anticoagulation in modifying haemorrhage risk, thrombotic events, recurrence-free, and overall survival has not been consistently studied in vein occlusions associated with AP. Among patients with SV, PV and SMV occlusion of all causes, these outcomes are connected to the placement, underlying cause, and use of anticoagulants⁽¹⁾. In this study, out of 21 patients in whom colocalized collections were seen, solely 7 patients were anticoagulated and out of these, solely 3 patients have recovered. Sometimes, patients with severe complications present terribly late to the clinical setting, due to lack of proper screening and investigatory procedures.

VI. CONCLUSIONS

Splanchnic vein thrombosis may be a common complication encountered in patients with AP. Colocalization of peripancreatic collections also are not uncommon because of compression and perivascular inflammation of the SV or PV or SMV. Recanalization was determined in more than half the patients in whom no

anticoagulation therapy was given. This suggests that these complications resolve by themselves most of the days. However, the role of anticoagulants in thrombosis related to AP should be tested thoroughly using differing kinds of studies like randomised control trials.

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