

Incidence of Mesenteric Vascular Occlusion

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Abstract:- Mesenteric vascular occlusion is a lethal condition resulting from critically reduced per fusion to the GIT. It accounts for 1-2% of admissions for abdominal pain. Though rare, this disease has been found to be quite fatal with the average mortality rate of this disease being around 70%. This study was hence done to find out the incidence of this disease among people who have been admitted with complaints of abdominal pain.

➤ **Aim:**

To study the incidence of mesenteric vascular occlusion in patients presenting to the hospital.

➤ **Objectives:**

To study the case files of patients admitted with abdominal pain and check the incidence of mesenteric vascular occlusion among them.

➤ **Methodology:**

Research was conducted in a private medical college in South India for over a period of 5 months, from March 2020 to August 2020. The sampling frame comprised of patients who have been admitted to the Department of General Surgery with complaints of abdominal pain. The sample size taken was 500. Details of the patients such as name, age, gender and their chief complaints were obtained through analysis of case sheets and in-patient case files. Ethical clearance was obtained from the Institutional Ethics Committee of Saveetha Medical College and Hospital, Chennai, India. The collected data was entered in Microsoft Excel 2013 and statistical analysis was carried out.

➤ **Result:**

The cause of abdominal pain due to the incidence of mesenteric vascular occlusion was found to be prevalent among 16 of the total number of patient files assessed.

➤ **Conclusion:**

The incidence of mesenteric vascular occlusion in our hospital was found to be 3.2% of the total patients admitted due to abdominal pain between the above mentioned periods.

Keywords:- Mesenteric Vascular Occlusion, Reduced Perfusion, Abdominal Pain, Fatal.

I. INTRODUCTION

Mesenteric vascular occlusion is one amongst the foremost fatal of all abdominal diseases. It most frequently defies recognition and is treated by numerous surgical and non surgical techniques to generally no avail^[1]. The mesenteric vasculature consists of 3 major arterial blood vessel branches with its collaterals:

- Celiac axis - provision the foregut
- Superior mesenteric artery - provision the midgut
- Inferior mesenteric artery - provision the hindgut
- Marginal Artery of Drummond - anastomoses between SMA and IMA^[2]

Mesenteric ischaemia may end up as a consequence of occlusion of any one or additional of those 3 main arteries. Superior mesenteric artery is the most commonly occluded artery. Reck- oning on the period of occlusion the condition could either be acute or chronic. The reason for acute mesenteric ischaemia could be Embolic(50%), Thrombotic(25%), Non-occlusive, Mesenteric Venous Thrombus^[3]. The reason for chronic mesenteric ischaemia could also be gradual occlusion and vascular diseases. Mesenteric phlebothrombosis is either caused by thrombophilia, direct injury, or native venous congestion or stasis^[4].

Sources of embolic occlusion of the superior mesenteric artery could embrace left atrium in fibrillation, the left ventricle after mural myocardial infarct, vegetations on mitral and aortic valves associated with endocarditis and an atherosclerotic plaque from an aneurysm^[5]. Abdominal pain that is out of proportion in relevance to tenderness is the main feature of embolic occlusion. Pain is round the umbilicus to start with and later becomes diffuse. An associate embolic source(usually cardiac) could also be present. Persistent vomiting, bloody diarrhoea, followed by shock and toxicity can develop. At the start, the abdomen could be soft however later develops tenderness, rebound tenderness, distension, guarding and rigidity. In gradual occlusion, post- prandial abdominal pain is the most vital feature with aversion to food and weight loss. Abdominal angina could occur that may be a continual colicky pain, diffuse in nature and should occur with or without food intake^[6]. Bloody diarrhoea can also additionally be present.

The nature of abdominal pain will provide a clue on what type of mesenteric vascular occlusion could be the cause. The aim of this study was so, to seek out what

number patients affected by abdominal pain had mesenteric vascular occlusion as the aetiology.

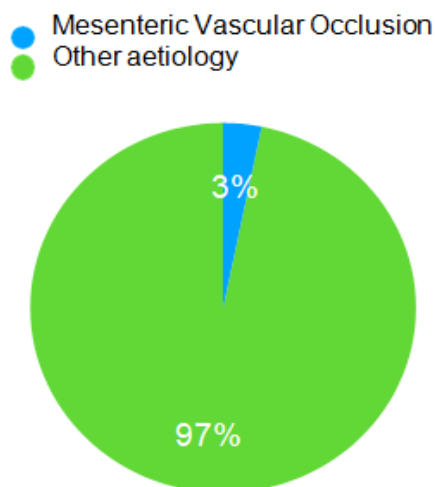
II. METHODOLOGY

A retrospective study consisting of records of all the patients admitted to the Department of General Surgery, Saveetha Medical College and Hospital, Chennai, India with complaints of abdominal pain between the period of March 2017 to March 2020 were assessed for a period of 5 months from March 2020 to August 2020. Ethical clearance was obtained from the Institutional Ethics Committee of Saveetha Medical College and Hospital, Chennai, India. The sample size taken was 500. The details of each patient were taken with special emphasis on the type of abdominal pain they presented with. The data collected was entered into Microsoft Excel 2013 and statistical analysis was carried out.

III. RESULTS

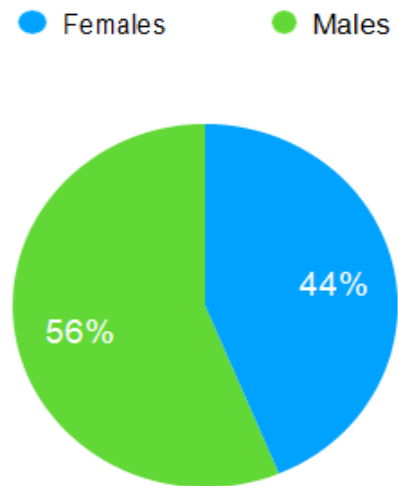
➤ *Incidence among 500 patients:*

The research carried out involved the study of 500 case files of patients suffering from abdominal pain out of which Mesenteric Vascular Occlusion was found to be the cause in 16 (3.2%) patients while in 484 (96.8%) patients, other disease aetiology was found (Pie Chart 1).



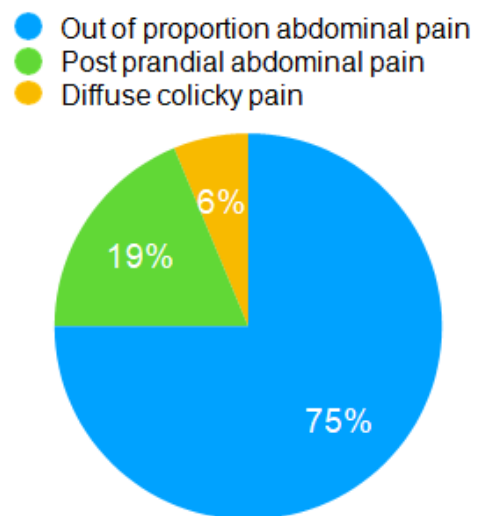
➤ *Sex Ratio:*

Out of the 16 patients diagnosed with mesenteric vascular occlusion, 7 (43.75%) were females and 9 (56.25%) were males (Pie Chart 2).



➤ *Complaints:*

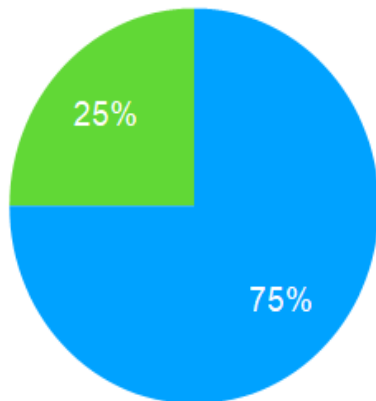
Out of the 16 patients diagnosed with mesenteric vascular occlusion, 12 patients (75%) complained of abdominal pain out of proportion in relation to tenderness while 3 patients (18.75%) complained of post-prandial abdominal pain and 1 patient (6.25%) complained of diffuse recurrent colicky pain i.e., abdominal angina (Pie Chart 3).



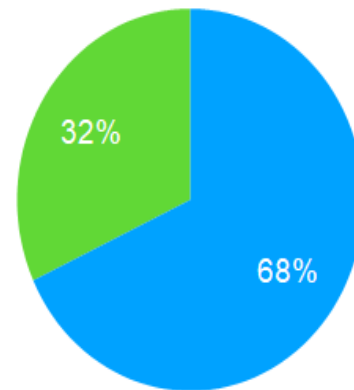
➤ *Acute v/s Chronic Occlusion:*

Out of the 16 patients diagnosed with mesenteric vascular occlusion, 12 patients (75%) were suffering from acute mesenteric vascular occlusion and 4 patients (25%) were suffering from chronic mesenteric vascular occlusion (Pie chart 4).

- Acute Mesenteric Vascular Occlusion
- Chronic Mesenteric Vascular Occlusion



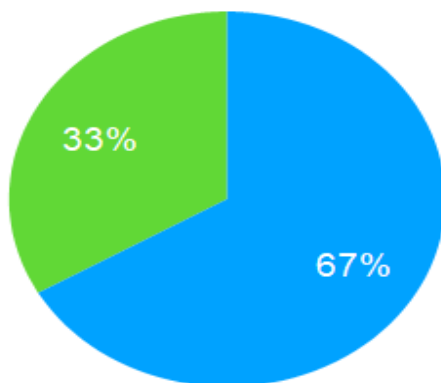
- Abdominal pain associated with bloody diarrhoea
- Only abdominal pain



➤ *Cause of Acute occlusion:*

Out of the 12 patients diagnosed with acute mesenteric vascular occlusion, the cause of occlusion in 8 patients (66.67%) was found to be an embolus from another organ and in 4 patients (33.33%) the cause of occlusion was found to be thrombus (Pie Chart 5).

- Obstruction due to embolus
- Obstruction due to thrombus



➤ *Associated symptoms:*

Out of the 16 patients diagnosed with mesenteric vascular occlusion, 11 patients (68.75%) showed abdominal pain associated with bloody diarrhoea while 5 patients (31.25%) showed only abdominal pain.

IV. CONCLUSION

The incidence of mesenteric vascular occlusion among the 500 patient records assessed, was found to be 16 (3.2%). Out of the 16 people affected with mesenteric vascular occlusion 7 of the patients were female while 9 patients were male. The incidence of type of symptoms in these patients diagnosed with mesenteric vascular occlusion were such that abdominal pain out of proportion to tenderness was the major symptom in 12 patients (75%), while 3 patients (18.75%) complained of post prandial abdominal pain while 1 patient (6.25%) complained of diffuse colicky pain in the abdomen. By finding the incidence of the above mentioned symptoms, we could estimate that out of the 16 patients diagnosed with mesenteric vascular occlusion, 12 patients (75%) were suffering from acute mesenteric vascular occlusion while 4 patients (25%) were suffering from chronic mesenteric vascular occlusion. Out of the 12 patients suffering from acute mesenteric vascular occlusion, the aetiology of occlusion was found to be embolus from another organ possibly the left ventricle in 8 patients (66.67%) while in 4 patients (33.33%), thrombus was found to be the aetiology of acute occlusion. Finally, we checked for the presence of associated symptoms in the patients diagnosed with mesenteric vascular occlusion wherein we found that out of the 16 patients diagnosed with this condition, 11 patients (68.75%) showed an associated symptom of bloody diarrhoea while 5 patients (31.25%) did not show any associated symptoms. Mesenteric vascular occlusion is a very rare case presenting in patients, but at the same time is associated with high rate of mortality. The study hence assessed the prevalence of this morbidity among general population presenting with complaints of abdominal pain. Knowing the cause of abdominal pain and intervention at the right time in case of mesenteric vascular occlusion can help save the patient before the disease turns out to be fatal.

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