



Acute Pancreatitis Following a Lower Extremity Angioplasty

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Introduction

- Acute pancreatitis affects a significant population globally. Pancreatitis post coronary intervention is an uncommon cause with only 19 published cases in the last two decades. Being cognizant of this etiology is important given the increasing number of patients undergoing angiography.

Case Description

- An 81-year-old female with hypertension, diabetes, peripheral arterial disease, prior cholecystectomy underwent left lower extremity angioplasty at an outside center. Within a few hours, she started having severe epigastric pain radiating to her back, nausea, vomiting, and loose bloody stools. She presented to our center 24 hours after symptom onset.
- Epigastric tenderness was present on exam. Labs revealed leukocytosis(24,450/ μ L),elevated lipase(1410 U/L),elevated creatinine(1.3 mg/dL), lactate(3.1 mmol/L), calcium 9.4 mg/dL and triglycerides 161 mg/dL. Incidentally, found to be positive for COVID-19.
- Normal common bile duct diameter was seen on sonogram. CT angiogram of the abdomen/pelvis showed acute pancreatitis, duodenal and central small bowel enteritis. She was not on any medications known to cause pancreatitis and denied alcohol use.
- Patient improved with analgesics and intravenous fluids. She had no recurrence of bloody stools and hemoglobin remained stable.
- On day 4, she was able to tolerate a regular diet. Leukocyte count and creatinine normalized. Patient did not have any respiratory symptoms due to COVID, and was discharged.

S.NO.	YEAR	AUTHOR	PROCEDURE	ETIOLOGY	TIME BETWEEN PROCEDURE AND SYMPTOM ONSET	CONTRAST USED	VOLUME OF CONTRAST(mL)
1	1994	Orvar et al ¹	Angiography	Cholesterol emboli detected on autopsy	14 HOURS	NOT MENTIONED	80-160
2	1994	Orvar et al ¹	Angiography	Cholesterol emboli detected on autopsy	IMMEDIATELY	NOT MENTIONED	80-160
3	1994	Orvar et al ¹	Angiography	Contrast Induced	NOT MENTIONED	NOT MENTIONED	80-160
4	1994	Orvar et al ¹	Angiography	Contrast Induced	NOT MENTIONED	NOT MENTIONED	80-160
5	1994	Orvar et al ¹	Angiography	Contrast Induced	NOT MENTIONED	NOT MENTIONED	80-160
6	1994	Orvar et al ¹	Angiography	Contrast Induced	NOT MENTIONED	NOT MENTIONED	80-160
7	1994	Orvar et al ¹	Angiography	Contrast Induced	NOT MENTIONED	NOT MENTIONED	80-160
8	1994	Orvar et al ¹	Angiography	Contrast Induced	NOT MENTIONED	NOT MENTIONED	80-160
9	1994	Orvar et al ¹	Angiography	Contrast Induced	NOT MENTIONED	NOT MENTIONED	80-160
10	1994	Orvar et al ¹	Angiography	Contrast Induced	NOT MENTIONED	NOT MENTIONED	80-160
11	1994	Orvar et al ¹	Angiography	Cholesterol emboli detected on autopsy	NOT MENTIONED	NOT MENTIONED	80-160
12	1994	Orvar et al ¹	Angiography	Cholesterol emboli detected on autopsy	NOT MENTIONED	NOT MENTIONED	80-160
13	2013	Gorges et al ²	Angiography	Contrast Induced	1 HOUR	IOPAMIDOL	120
14	2014	Abstract 343, Journal of Hospital Medicine ³	Angioplasty	Contrast Induced	NOT MENTIONED	NOT MENTIONED	NOT MENTIONED
15	2017	Hajimaghsoudi et al ⁴	Angiography	Contrast Induced	48 HOURS	IODIXANOL	100
16	2020	Rafiq et al ⁵	Angioplasty	Contrast Induced	IMMEDIATELY	IOVERSAL	150
17	2020	Mui et al ⁶	Angioplasty	Contrast Induced	IMMEDIATELY	IOHEXOL	120

Table 1. Current literature reports on acute pancreatitis after coronary angiography/angioplasty. A total of 19 cases were identified. However, only seventeen cases have been shown in the table. Due to inability to get permission for reuse, the remaining 2 cases have not been shown.



Figure 1. CT abdomen of our patient showing pancreatitis

Discussion

- Given the temporal association to angioplasty and no other identifiable cause, acute pancreatitis was presumed to be due to the contrast used during angioplasty.
- Other possibilities included cholesterol embolism but no peripheral signs of cholesterol embolism were seen.
- Patient was an asymptomatic COVID-19 case. Although, there are case series of pancreatitis due to COVID, those were found in very sick symptomatic patients. On review of literature, cholesterol embolism was identified as a definite cause only on autopsy or laparotomy.
- Possible mechanisms of contrast induced pancreatitis are: high viscosity of the contrast media leading to ischemia and necrosis, contrast causing NF- κ B activation followed by epithelial damage, and vasospasm.
- Pancreatitis after coronary angiography is rare, nonetheless, an important differential especially if there is a temporal relationship.

Contact

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