ROLE OF COMPUTED TOMOGRAPHY IN DIAGNOSIS OF EPIGASTRIC PAIN EMERGENCY

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INTRODUCTION

One of the most frequent causes of emergency department (ED) visits and subsequent hospital admissions worldwide is acute epigastric pain, it has a wide differential diagnosis and it can refer to a wide range of illnesses ranging from benign and self-limited illnesses that can be handled medically without need of surgical intervention to surgical life threatening conditions. Imaging plays a significant role in management of these patients as clinical evaluation results can be inaccurate. Performing computed tomography (CT) is the most important since it allows for a more accurate and reproducible diagnosis in emergency situations.

AIM OF THE WORK

The aim of the study was to assess the role of CT imaging in evaluation and early correct diagnosis of patient attending with acute epigastric pain in emergency department of Alexandria main university hospital.

PATIENTS AND METHODS

The study was carried on 40 patients who attended to emergency department in Alexandria main university hospital presenting with non-traumatic acute epigastric pain. Imaging was performed after clinical examination and lab investigations. Ultrasound was done then patients proceeded to computed tomographic imaging for a more accurate diagnosis. The radiological findings were correlated with surgical feedback data, clinical response to medical treatment and histopathological results.

RESULTS

Table 1: Distribution of the studied cases according to CT finding and diagnosis (n=40)

CT finding and diagnosis	No.	%
Gastric causes	8	20.0
Perforated peptic ulcer	2	5.0
Duodenitis	1	2.5
Gastric volvulus	1	2.5
Emphysematous gastritis	1	2.5
Peptic ulcer	2	5.0
Gastric neoplasm	1	2.5
Gall bladder causes	4	10.0
Perforated GB	2	5.0
Gangrenous GB	2	5.0
Pancreatic causes	9	22.5
Acute interstitial pancreatitis	3	7.5
Acute necrotizing pancreatitis	6	15.0
Aortic causes	7	17.5
Aortic dissection	4	10.0
Ruptured abdominal aortic aneurysm	3	7.5
Hepatic causes	3	7.5
Hepatic abscess	2	5.0
Hepatic neoplasm	1	2.5
Mesenteric vascular occlusion causes	7	17.5
Acute arterial MVO with ischemic bowel changes	3	7.5
Acute arterial MVO without ischemic bowel changes	1	2.5
Acute venous MVO with ischemic bowel changes	3	7.5
Vascular compression syndromes	2	5.0
SMA syndrome	1	2.5
Median arcuate ligament syndrome	1	2.5

Table 2: Final diagnosis according to the management among the studied patients.

Final diagnosis according to the management	Frequency (NO)	Percent (%)
Surgical findings	20	50
Surgical and histopathological findings	2	5
Response to medical treatment	18	45
Total	40	100

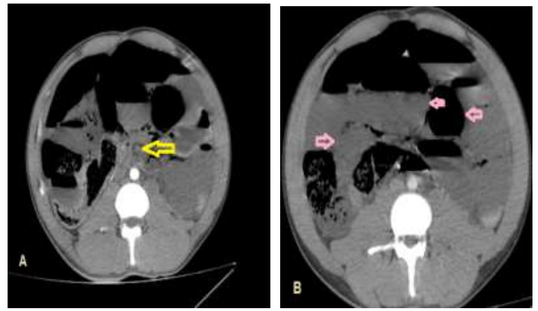

Figure 1: A 54 years old male patient came to ER complaining of severe epigastric pain. **(A) Axial** cut reveal total occlusion of SMA over mesenteric twist (yellow arrow). **(B) Axial** cut reveals distended bowel with non-enhancement of bowel wall.Data of acute arterial MVO with ischemic bowel changes.

Figure 2: A 25 years old male patient came to ER with epigastric pain radiating to the back**. (A) Axial** post contrast CT cut reveals bulky pancreas with non-enhancing parenchyma of nearly all body and tail (more than 50%) **(B) axial** cut reveal retroperitoneal fat stranding and fluid collection. **(C) axial** cut reveals splenic vein thrombosis. CT diagnosis of this case was acute necrotizing pancreatitis CTSI 10 complicated with splenic vein thrombosis.

CONCLUSION

Computed tomography is a reliable diagnostic imaging modality in evaluation of patients presenting with acute epigastric pain. It helps in rapid correct diagnosis and limiting unnecessary surgical interventions.

MDCT is an efficient diagnostic modality in differentiating inflammatory and neoplastic conditions and differentiating between benign and malignant lesions and also in detecting their complications as obstruction and perforation.