Role of imaging in diagnosis of abdominal angina

Essay

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By

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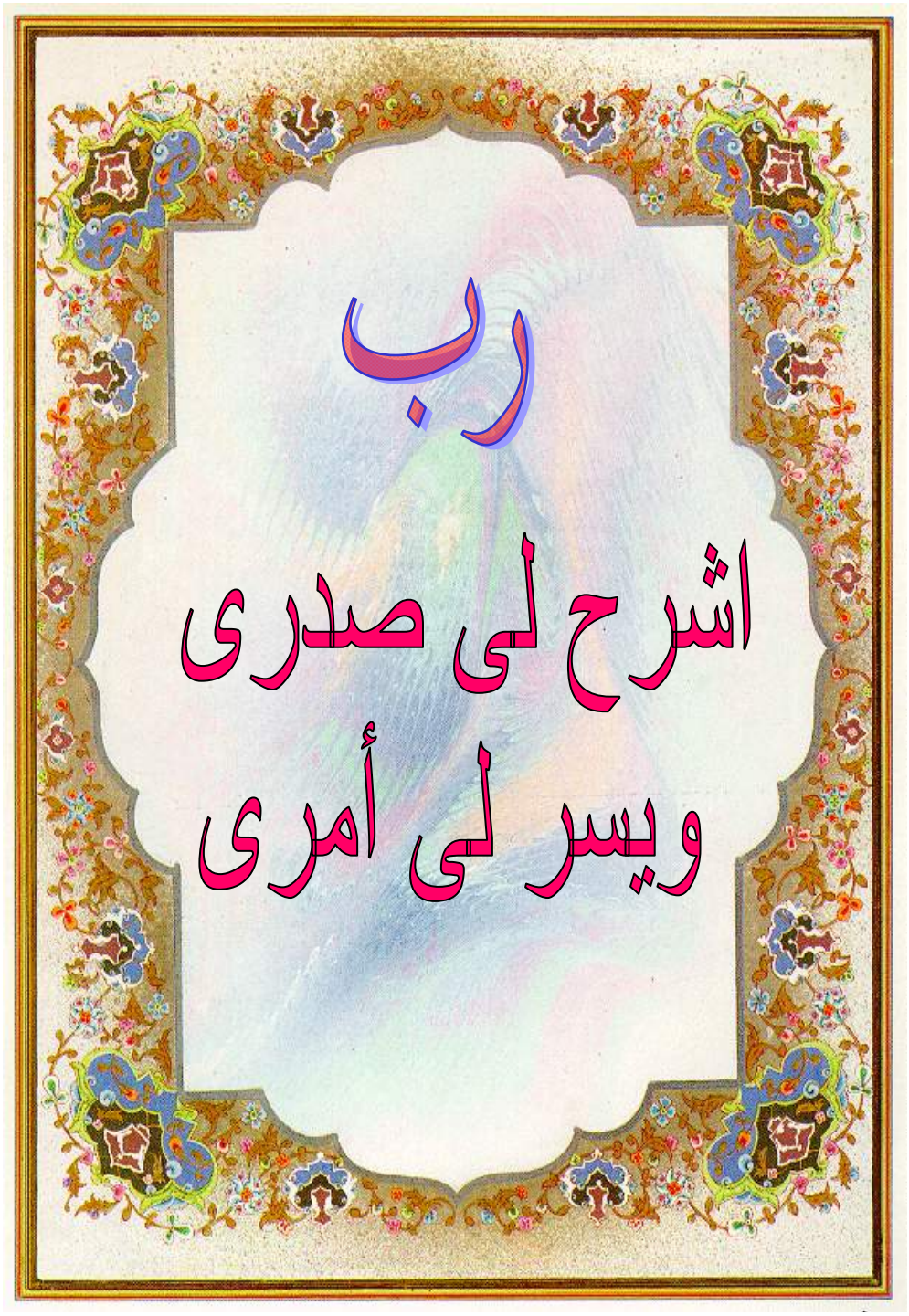
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Alsayed Hussein

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List of Abbreviations

2D	Two-dimensional
3D	Three-dimensional
AA	Abdominal angina
AEC	Automatic exposure control
AI	Acceleration index
AO	Aorta
AT	Acceleration time
CA	Celiac artery
CE	Contrast enhanced
CFA	Common femoral artery
CIA	Common iliac artery
CIN	Contrast-induced nephropathy
CMI	Chronic mesenteric ischemia
CPR	Curved planar reformation
CTA	Computed tomographic angiography
DSA	Digital subtraction angiography
DSCT	Dual-source CT
EDV	End-diastolic velocity
FDA	Food and drug administration
FMD	Fibromuscular dysplasia
FSE	Fast spin-echo
FSPGR	Fast spoiled gradient-echo
Gd	Gadolinium
GE-MRA	Gadolinium enhanced magnetic resonance angiography

GRE	Gradient echo
IMA	Inferior mesenteric artery
IR	Inversion recovery
IVDSA	Intravenous digital subtraction angiography
LOCM	Low-osmolar contrast materials
MALS	Median arcuate ligament syndrome
MAR	Mesenteric-aortic velocity ratio
MDCTA	Multi-detector CT angiography
MIP	Maximum intensity projection
MPR	Multi Planar reformation
MRA	Magnetic resonance angiography
MRI	Magnetic resonance imaging
MSCT	Multislice computed tomography
MV	Mean flow velocity
PC	Phase-contrast
PCA	Phase Contrast Angiography
PI	Pulsatility index
PRF	Pulse repetition frequency
PSV	peak systolic velocity
RI	Resistive index
ROI	Region of interest
SFA	Superficial femoral artery
SMA	Superior mesenteric artery
SNR	Signal-to-noise ratio
SSD	Shaded surface display
TE	Echo time

TI	Inversion time
TOF	Time-of-flight
TR	Repetition time
US	Ultrasonography
VE	Virtual endoscopy
VOI	Volume of interest
VR	Volume rendering
WI	Weighted image

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Pathology of abdominal angina (AA)

When arterial blood flow to the intestines is compromised, a complicated disorder known as mesenteric ischemia occurs. This disorder is classified as either acute or chronic, depending on its clinical manifestation. The chronic form of mesenteric ischemia (CMI) is the pathophysiologic cause of the symptom of abdominal angina (AA), based on the fact that patients experience abdominal pain with increased demand for blood at the level of the splanchnic organs. This increased demand normally occurs after meals ***(Cademartiri et al., 2004).***

Although Schnitzler first described the clinical picture of post prandial clinical pain in 1901, description of the syndrome of postprandial abdominal angina generally is attributed to Baccelli or Goodman (1918). In 1936, Dunphy recognized that this syndrome was a precursor of fatal intestinal necrosis; however, not until 1957 did Mikkelsen propose surgical treatment of occlusive mesenteric vascular disease. Shaw and Maynard reported the first transarterial thromboendarterectomy of the SMA in 1958, followed in rapid succession by Mikkelsen and Zarro in 1959 ***(Aziz et al., 2009).***