



2025

KARNATAKA RADIOLOGY EDUCATION PROGRAM

CASE PRESENTATION

MODERATOR: DR JEEVIKA M U

HOD DEPT OF RADIDIAGNOSIS

JJMMC, DAVANGERE

PRESENTER: DR SHIVAPRAKASH, PG RESIDENT

Chief complaints

- A male patient came with A/H/O self fall from bike having sustained injury to the abdomen
- Followed which patient C/O 4-5 episodes of vomiting
- No h/o injury to head /chest /external genitalia
- No h/o loc/seizures/ENT bleed
- Patient has passed urine post RTA, no c/o dysuria/hematuria
- O/E : GCS 13/15

O/E :vitals stable

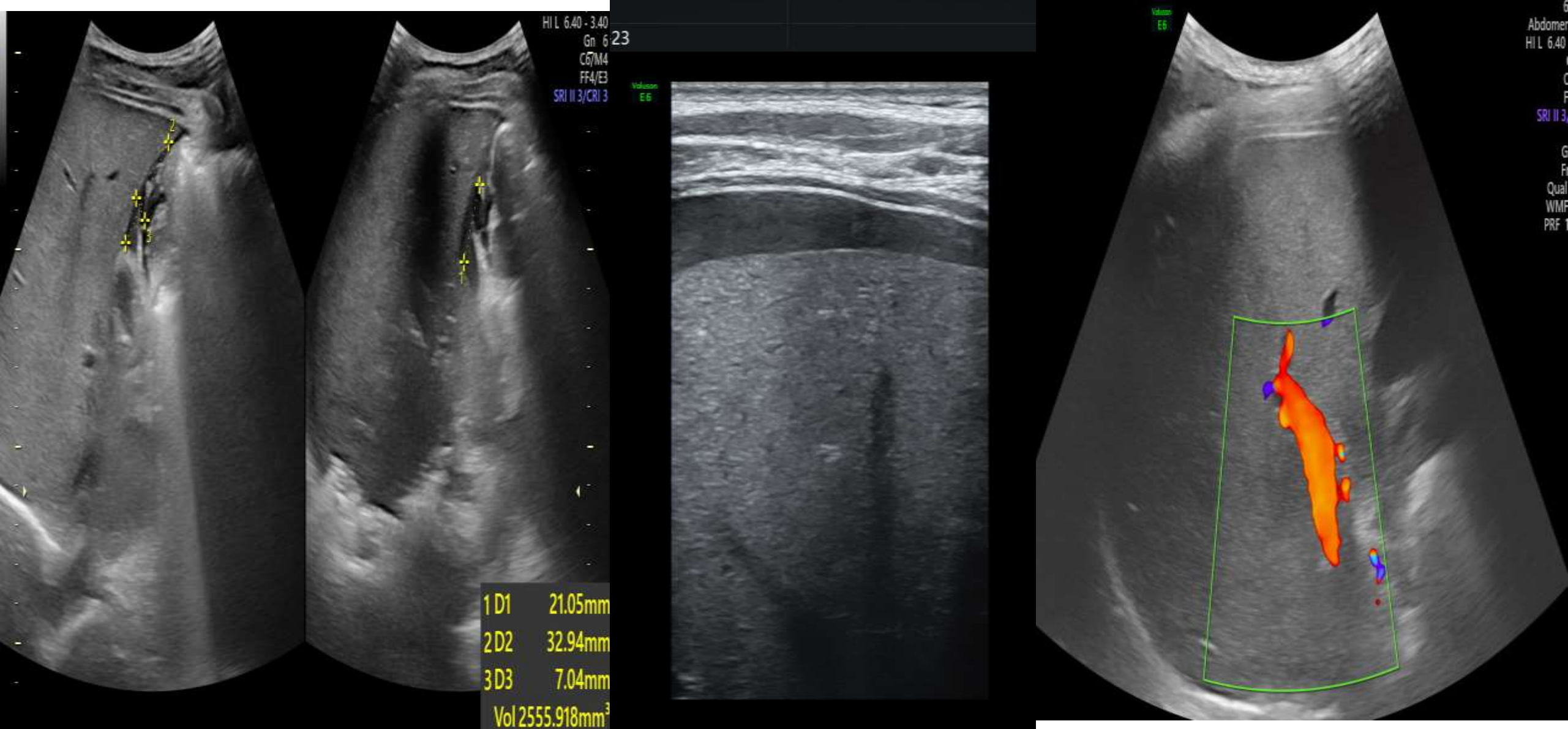
BP 130/80 mmHG

PR:85bpm

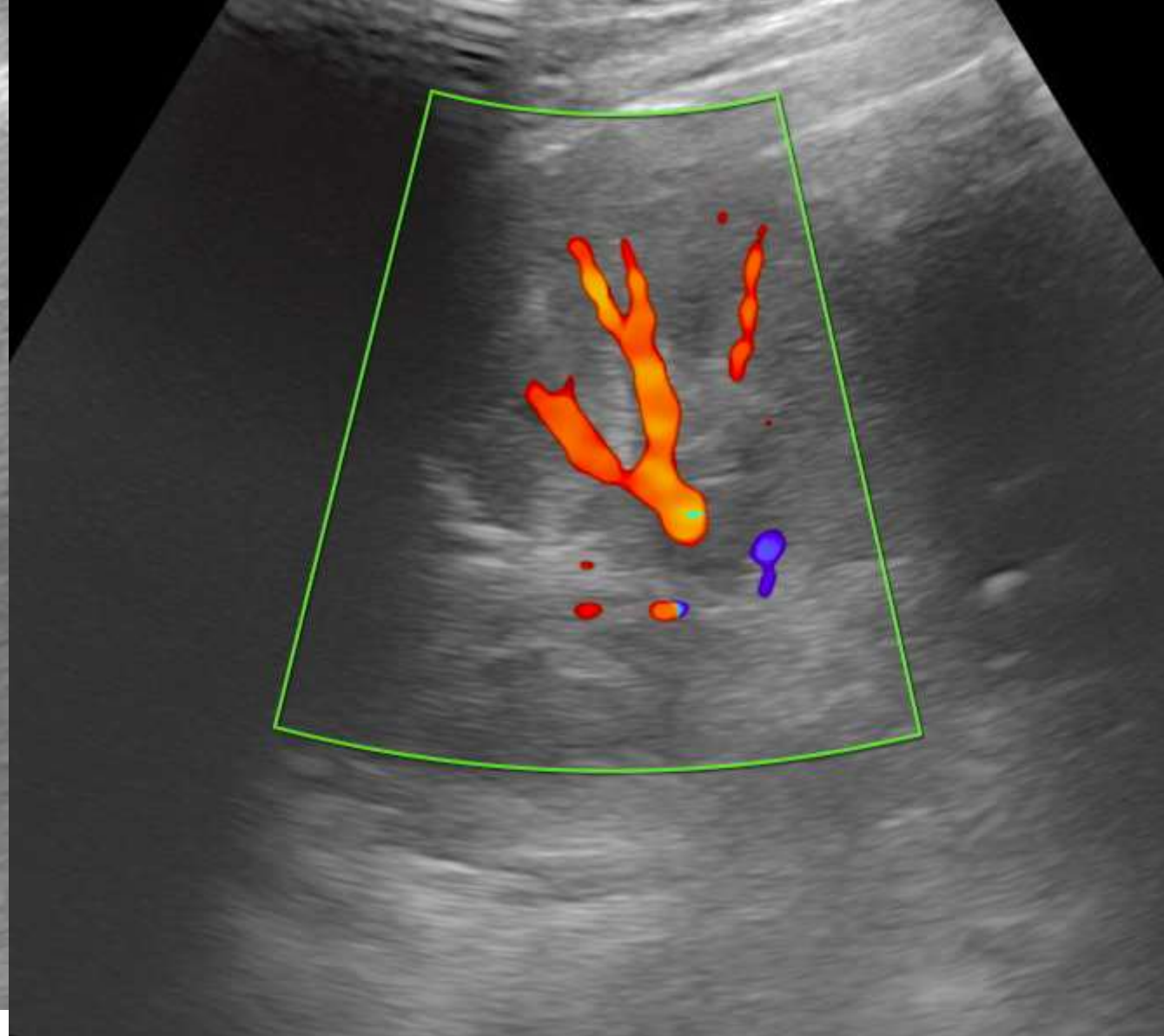
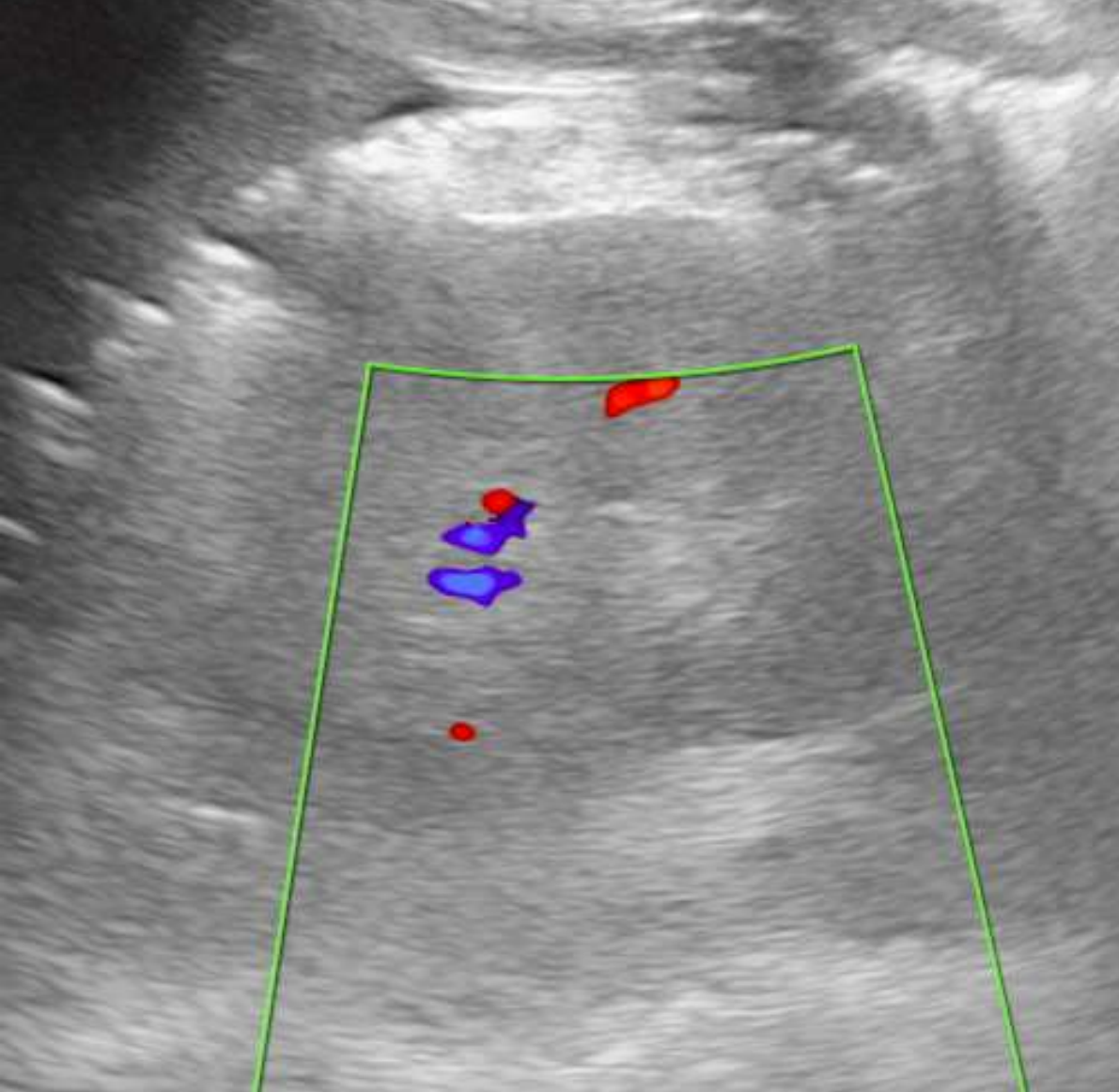
Erect abdomen radiograph



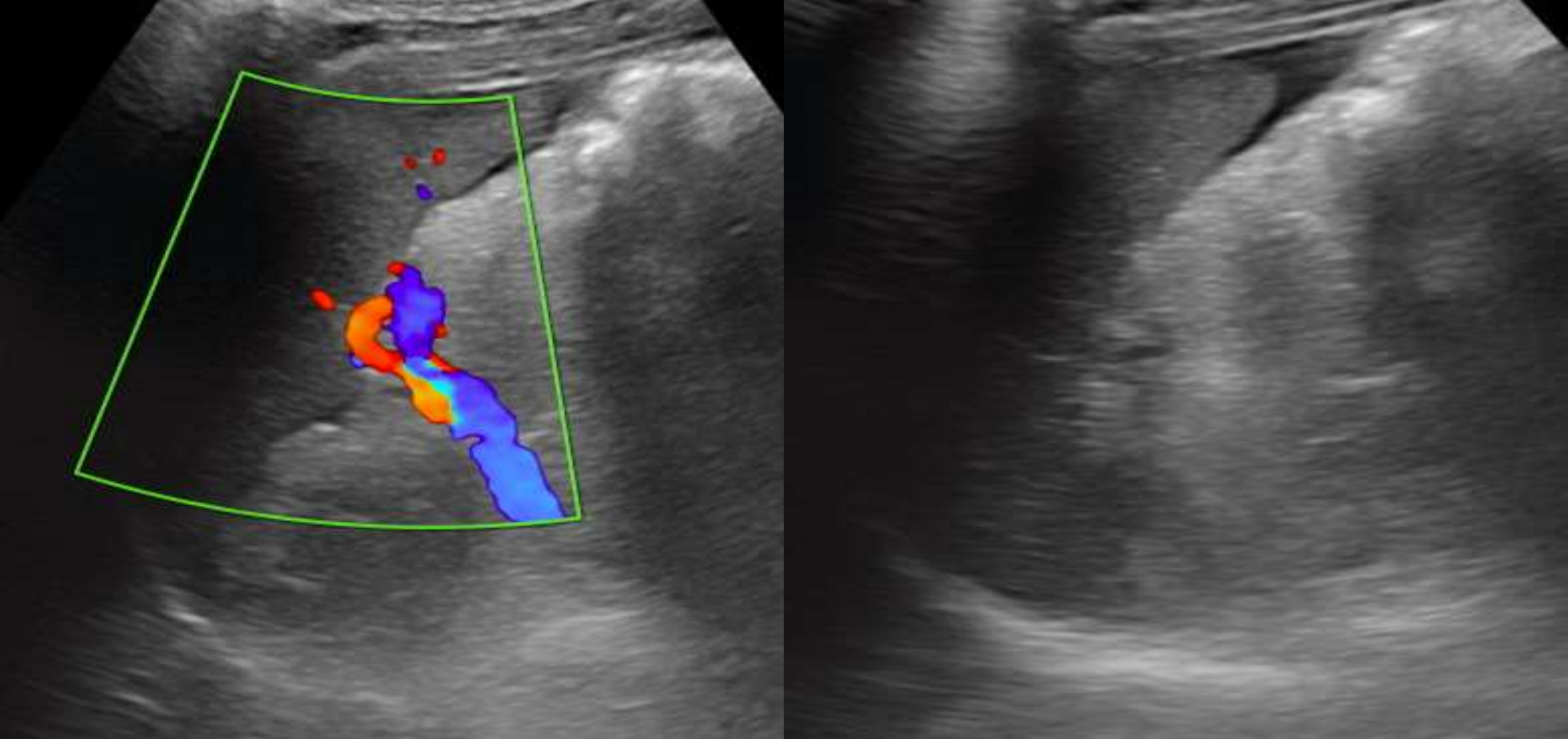
Patchy ill defined radiolucent areas noted in the right lumbar region compare to left lumbar region



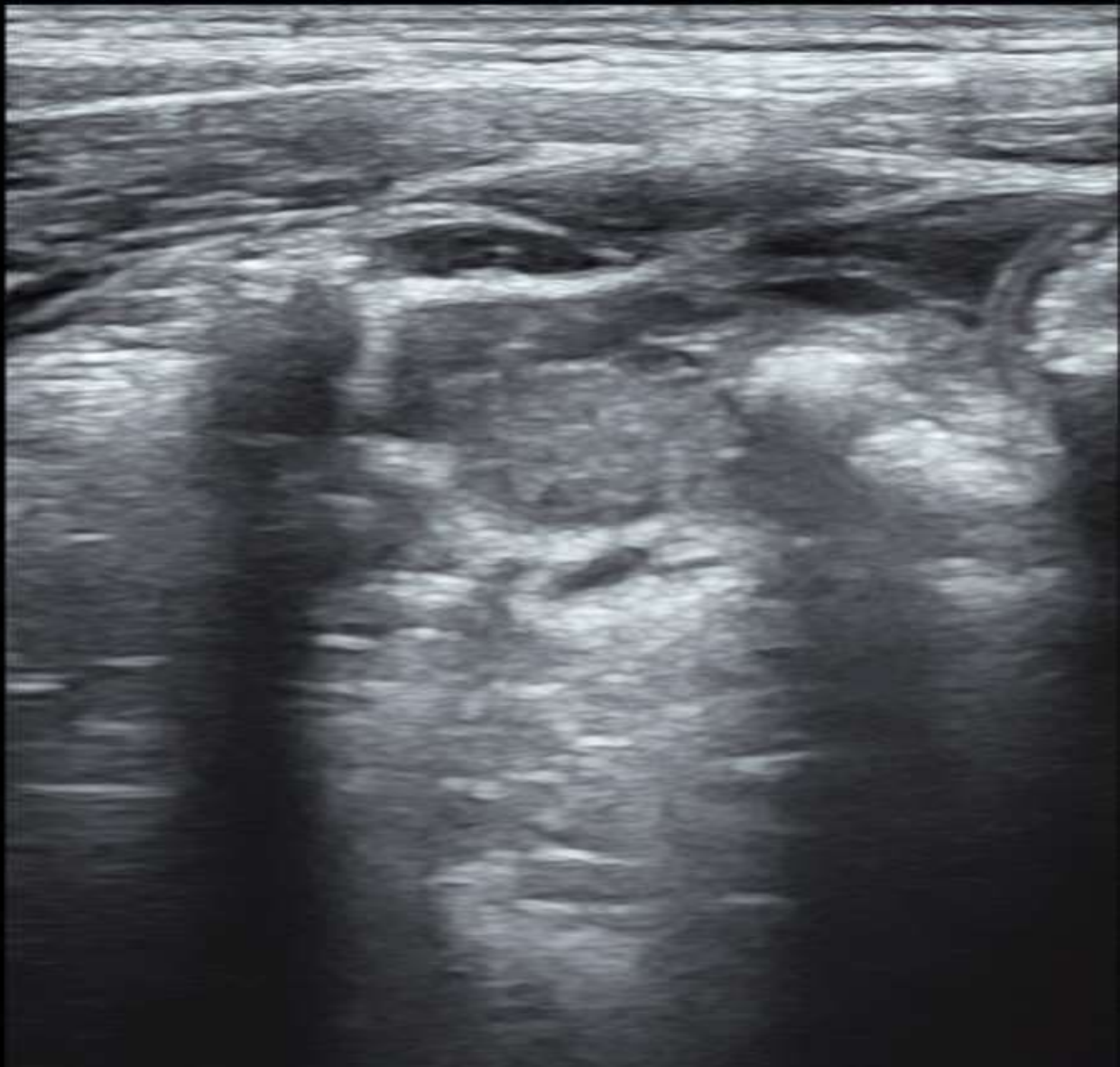
- free fluid with internal echoes noted around the perihepatic and sub hepatic region → s/o hemoperitoneum
- Liver appears normal in size shape and echo pattern with no obvious evidence of hepatic injury and maintained vascularity



Right and left kidneys are sub optimally visualized with multiple air foci giving reverberation artifacts noted around the right perirenal space
However no obvious renal injury noted with maintained hilar vascularity



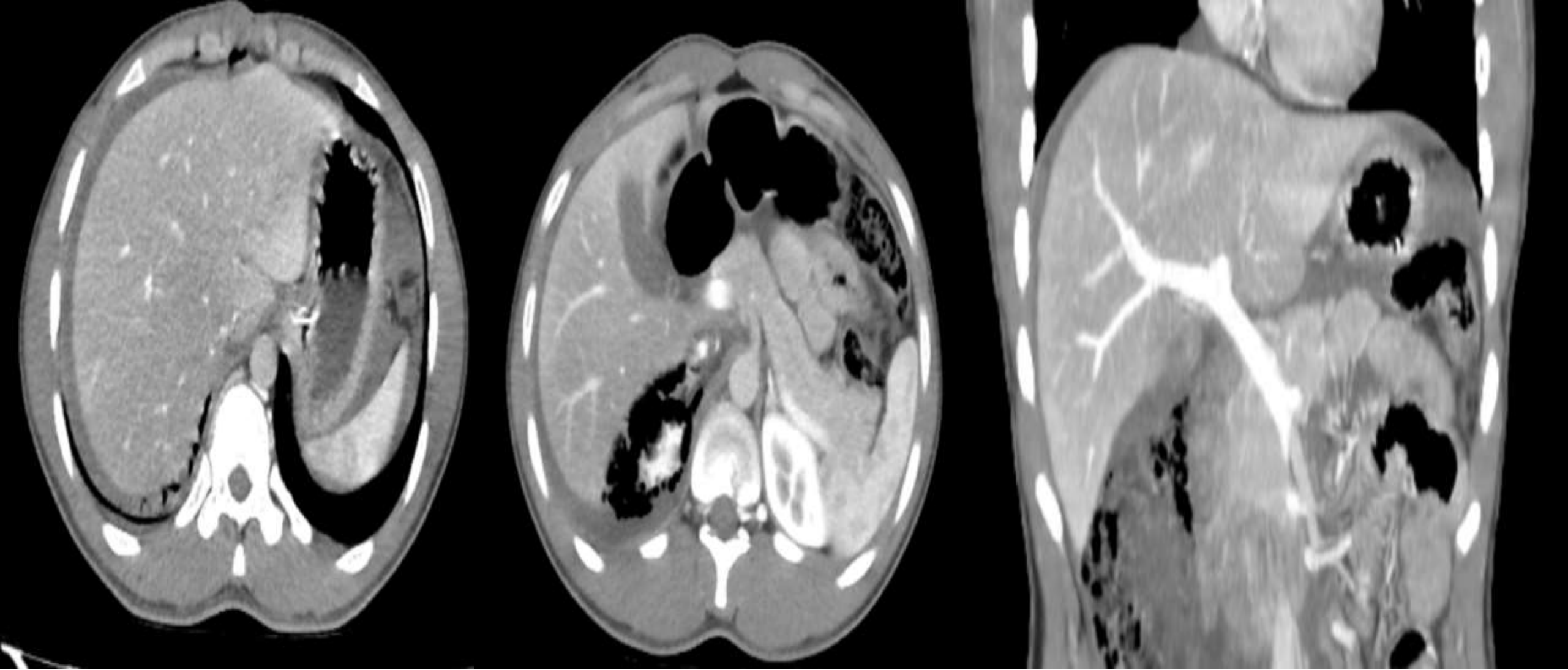
- Free fluid with few internal echoes noted around the peri splenic region
- Spleen appears normal in size shape and echo pattern with no obvious evidence of splenic injury and maintained hilar vascularity



Bowel was sub optimally visualized due to excessive gas shadows
Free fluid noted in the bilateral paracolic gutter ,inter bowel regions and pelvic cavity

USG FINDINGS

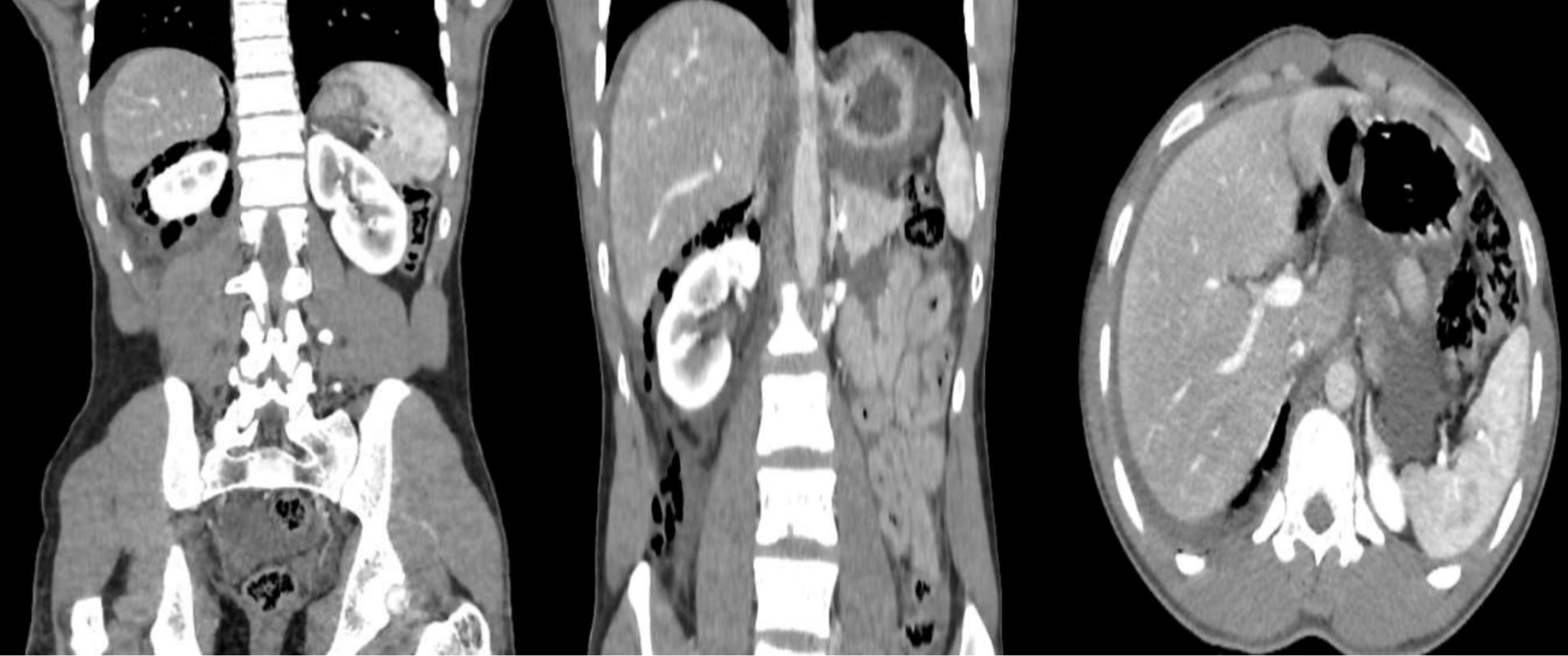
- Anechoic free fluid in the perihepatic sub hepatic, perispleeni ,interbowel, paracolic regions/o hemoperitoneum
- Multiple air foci noted in the right perirenal space →S/o Retropneumoperitoneum
- No obvious solid organ injury noted



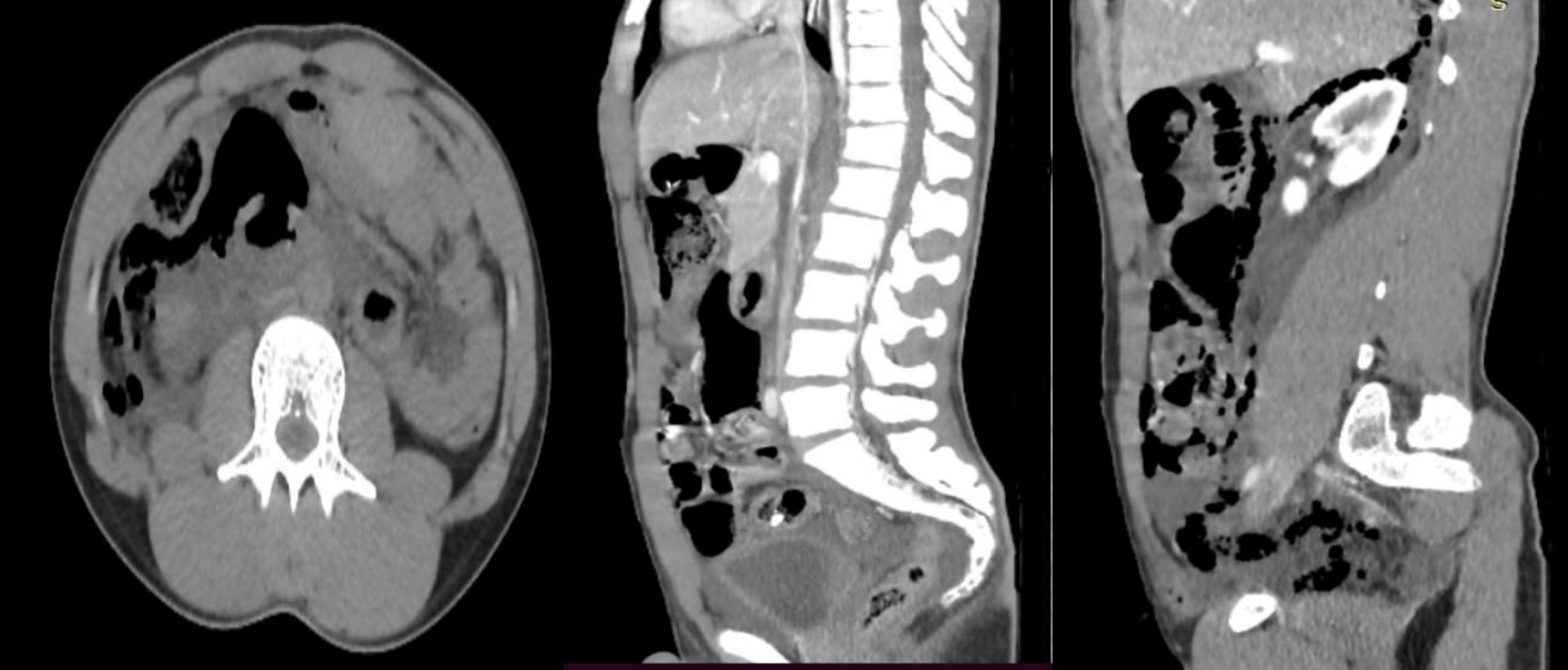
Hypodense area in the perihepatic, sub hepatic, peri splenic with multiple air pockets noted in the sub hepatic and anterior abdominal wall

pocket of the air noted in the anterior and posterior right perirenal space

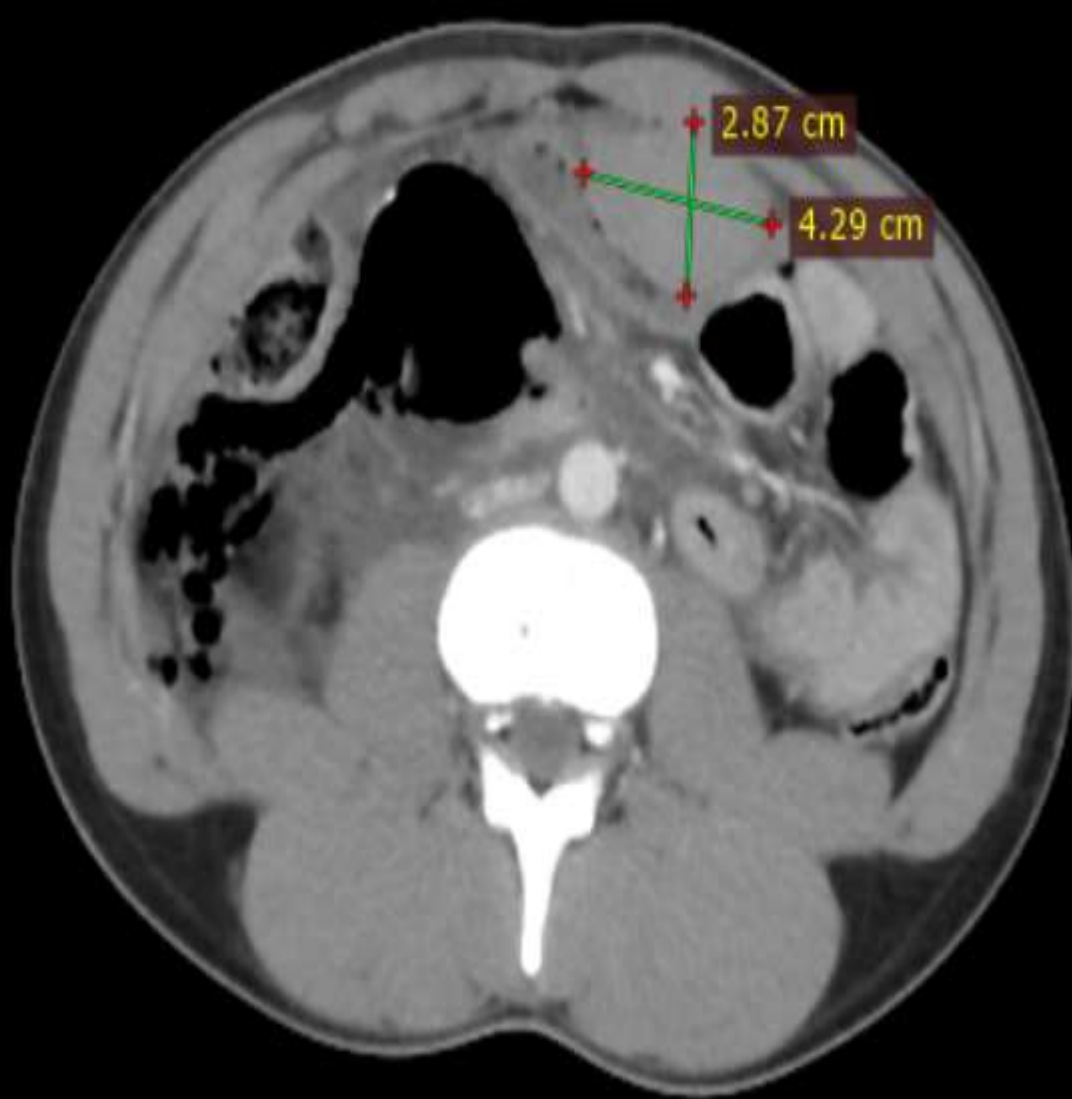
Liver showing homogeneous enhancement in arterial phase , no active extravasation of contrast noted



- Hypodense collection noted in perihepatic, perisplenic and right perirenal regions with multiple air pockets noted in the hepatorenal and right perirenal space
- Pockets of free air noted in the involving the right lumbar and iliac regions
- Spleen and bilateral kidneys showing normal enhancement patterns and no extravasation of the contrast noted.



- **Area of discontinuity noted along the 3rd part of duodenum (antero-inferior border at the inferior duodenal flexure) for a length of 2cm with extravasation of air from the defect - *Possible site of perforation.***
In the sagittal image we can seen free air is reaching till the paravesical space



A relatively well defined hyper-attenuating non-enhancing collection noted anterior to the transverse colon in left lumbar quadrant measuring 4.2x2.9x3.9cm (CCxAPxTR) approximately 25 cc in volume— Mesenteric hematoma

• IMPRESSION

- Area of discontinuity along the 3rd part of duodenum for a length of 19mm with extravasation of air from the defect - Possible site of perforation, Grade III AAST duodenal laceration
- Multiple pockets of free air along hepato-renal recess, anterior and posterior right perirenal space extending upto the right para-vesical space → S/o Retro Pneumoperitoneum
- Small pockets of free air along anterior abdominal wall → S/o Pneumoperitoneum
- A relatively well defined hyper-attenuating non-enhancing collection anterior to the transverse colon in left lumbar quadrant– Likely Mesenteric hematoma
- Free fluid along the perihepatic, subhepatic, perisplenic cavity, paracolic gutters, interbowel region and pelvic cavity
- ➔ F/S/O Hemo-pneumoperitoneum secondary to hollow viscus perforation of possibly 3rd part of duodenum with intraperitoneal hematoma

DISCUSSION

- The American Association for Surgery of Trauma (AAST)

Grade		Injury Description
I	Haematoma Laceration	Involving single portion of duodenum Partial thickness, no perforation
II	Haematoma Laceration	Involving more than one portion Disruption < 50% of circumference
III	Laceration	Disruption 50-75% of circumference of D2 Disruption 50-100% of circumference of D1, D3, D4
IV	Laceration	Disruption > 75% of circumference of D2 Involving ampulla or distal common bile duct
V	Laceration Vascular	Massive disruption of duodenopancreatic complex Devascularization of duodenum

D1 : 1st portion ; D2 : 2nd portion ; D3 : 3rd portion ; D4 : 4th portion of duodenum.

On follow up: Perforation at D3 level of duodenum

