

Girish Prajapati, M.D., C.C.D.S., C Caldwell, MD (Critical Care Attending)

Saint Peter's University Hospital/ and Rutgers - RWJ Medical School, New Brunswick, NJ

BACKGROUND

In adult, Bochdalek's hernias are discovered incidentally when patients undergo investigation for unrelated symptoms (1). In adults, right sided hernia are more common with mean age 66 years & being common in women in comparison to neonate; in which it is left sided and have male predominance. True prevalence of Bochdalek hernia remains unknown; but with frequent use of CT and MRI, the incidence has been increasing, as high as 6% (1). Various imaging modalities (X-ray, CT scan, MRI) are used to diagnose with varying sensitivity & specificity, CT scan being most useful with sensitivity of 50-78% with specificity 100% (2). Ultrasound (US) being readily available, cheap, and fast, is being used with increasing frequency.

CASE REPORT

78 year old male who presented with acute onset chest pain and on evaluation found to have B/L pulmonary embolism on CT pulmonary angiogram. In addition, imaging revealed incidental finding of right side Bochdalek hernia containing fat and adjacent lipoma (images 1 & 2). Three months later the same patient was readmitted with left main with triple vessel disease and required transfer to a different center for coronary artery bypass (CABG). It was during this second admission that bedside US of right chest done to qualify the presentation of Bochdalek hernia as it appears on US, shown in images 3&4.

IMAGES

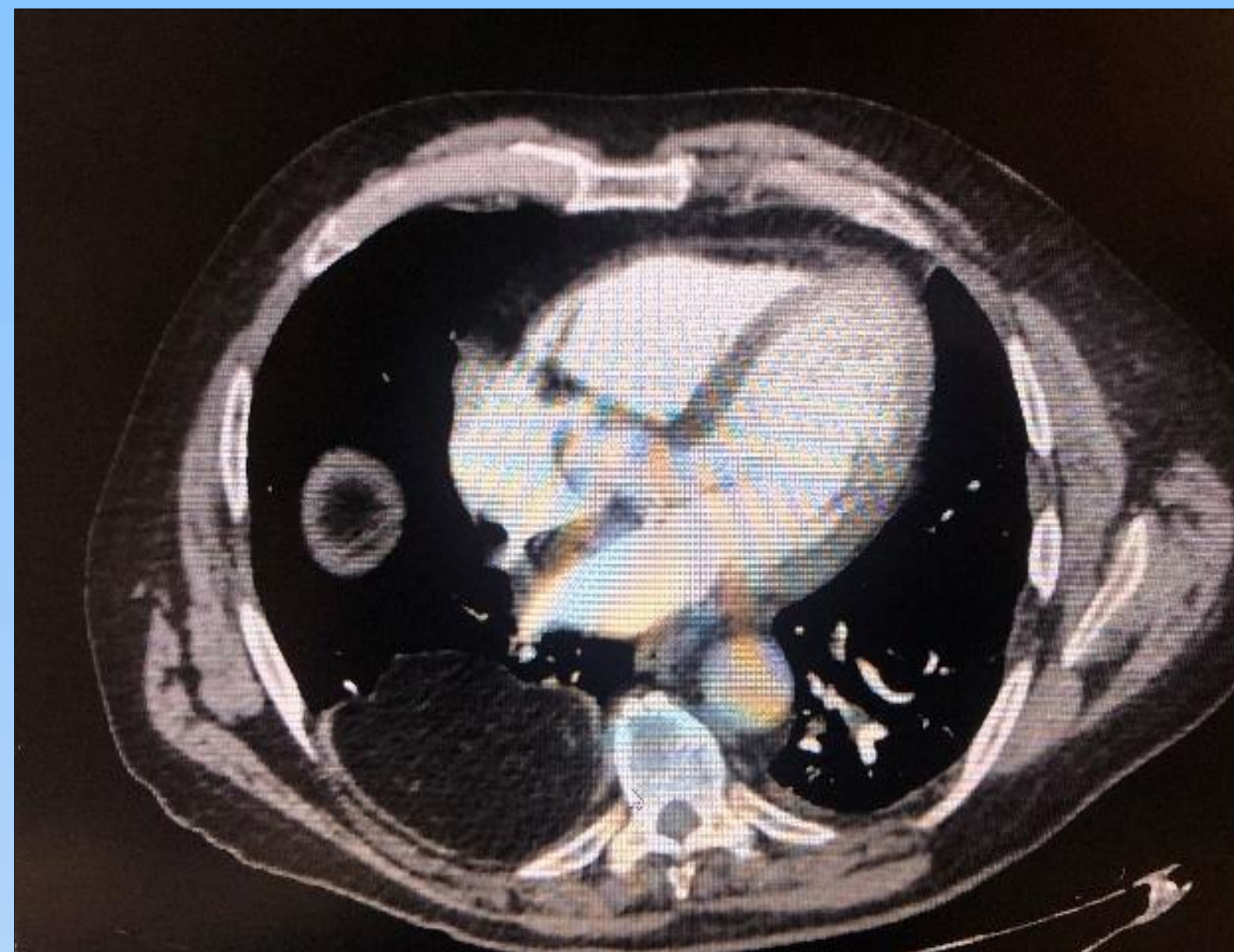


Image 1

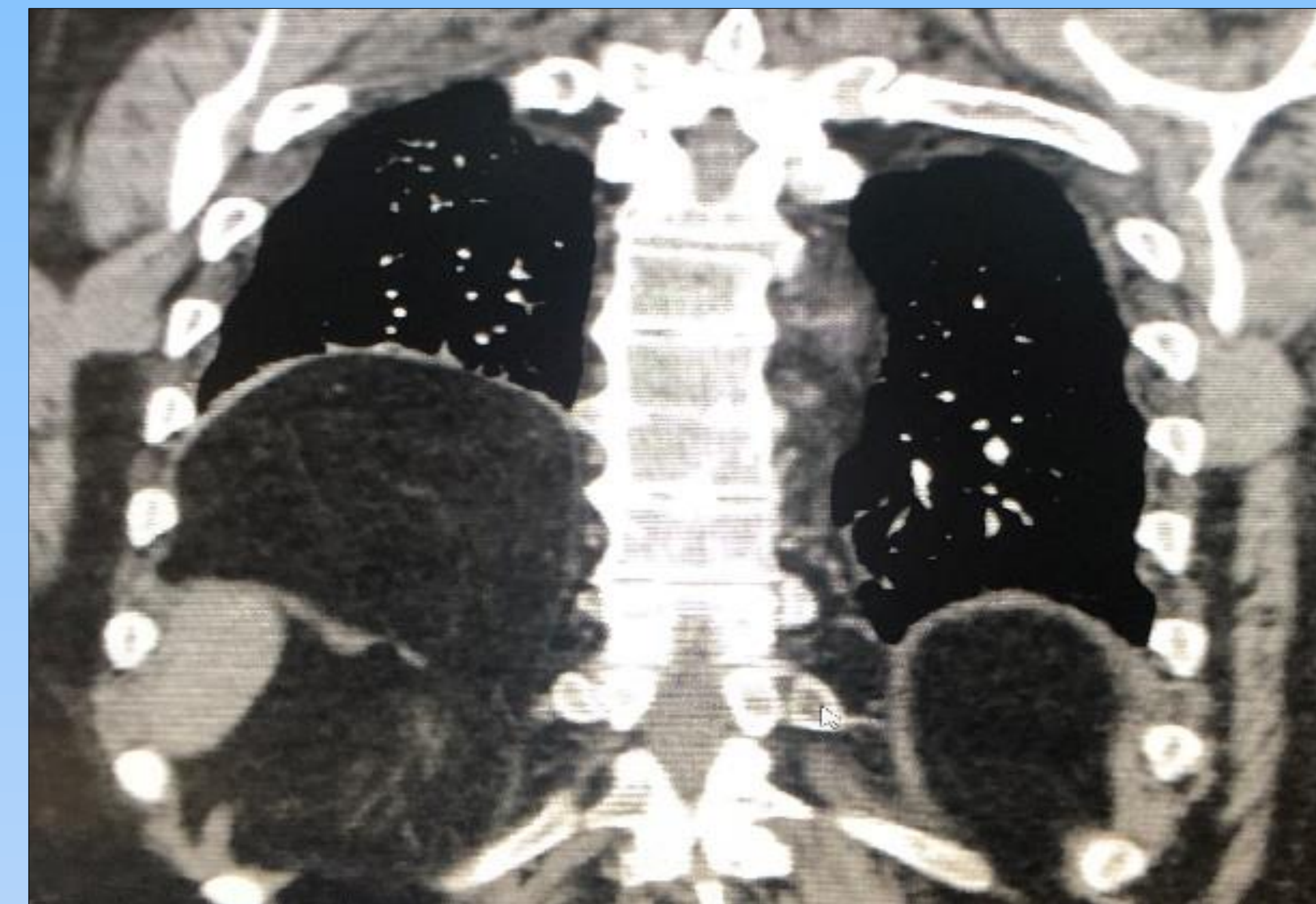


Image 2

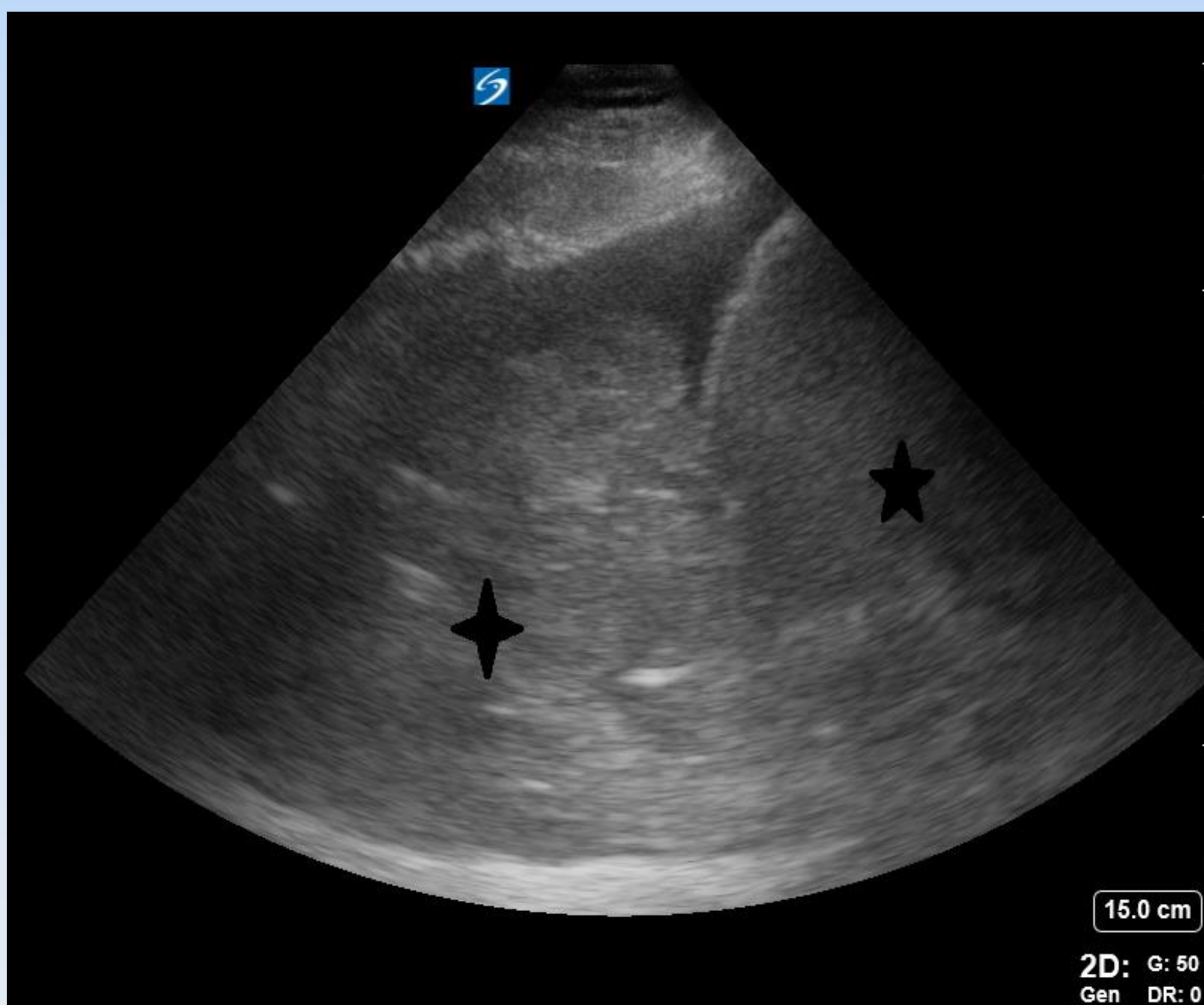


Image 3

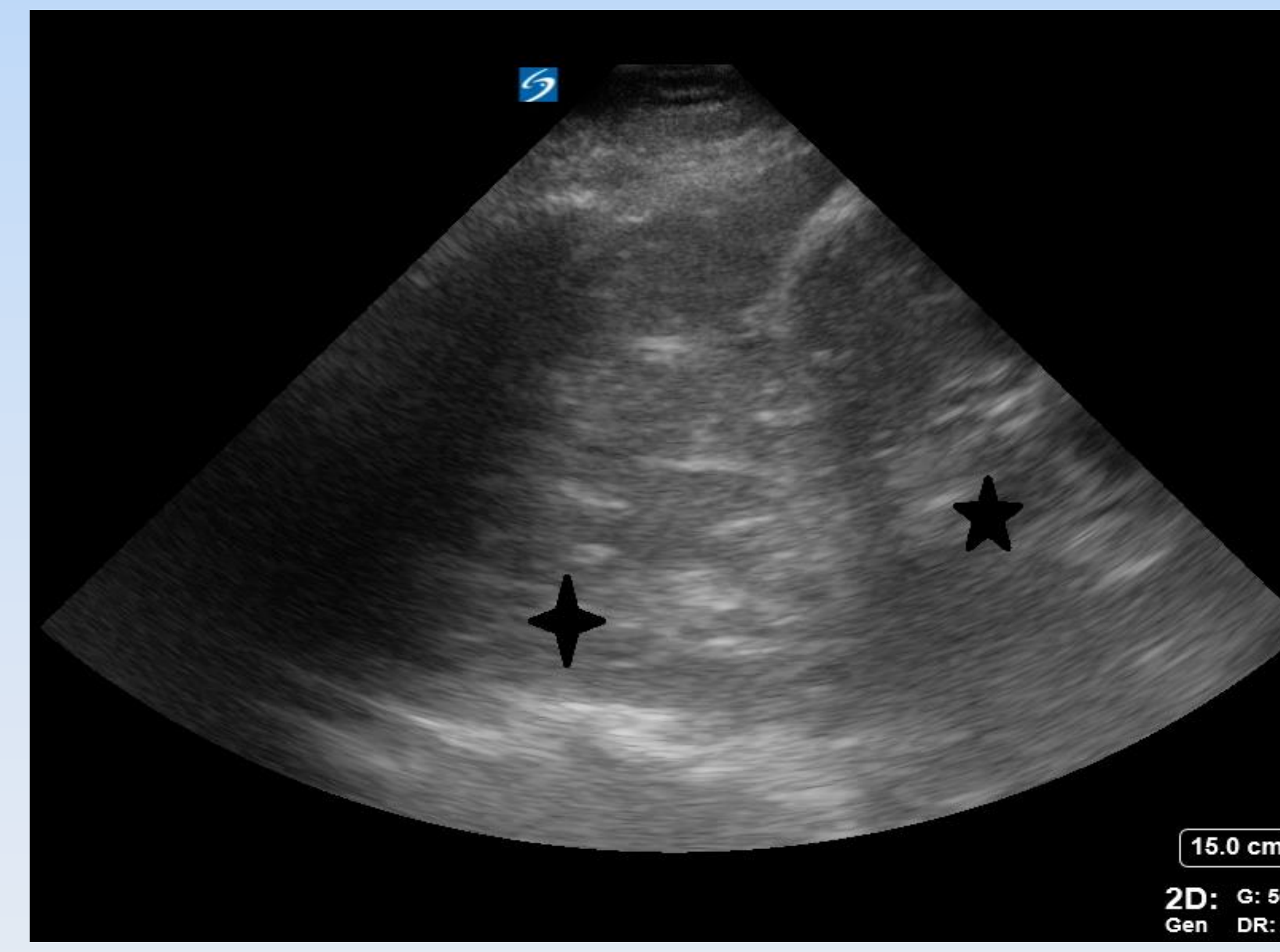


Image 4

DISCUSSION

With widespread use of CT/MRI scan in recent years, incidental Bochdalek hernia are likely to be discovered more (3). The incidence of Bochdalek hernias are much higher than previously reported in literature. CT scan and MRI are expensive modality and time consuming with risk of exposure of radiation. On the contrary, US is cheap, free from radiation, readily available and multiple examinations can be performed at the bedside. There are some limitations to US; being dependent on the skill of the operator and the patient's condition for quality of images (4). In a patient who is in pain or hemodynamically unstable, it may be difficult to perform a high-quality examination. In conclusion, US can be useful in detecting the extent of the diaphragmatic defect and determining the location of the hernia. This information can be used to follow up asymptomatic patients and for selecting the appropriate surgical procedure in symptomatic patient.

REFERENCES:

1. Garófano-Jerez JM, López-González Jde D, Valero-González MA, Valenzuela-Barranco M. Posterolateral Bochdalek diaphragmatic hernia in adults. *Rev Esp Enferm Dig.* 2011 Sep;103(9):484-91. doi: 10.4321/s1130-01082011000900009. PMID: 21951119.
2. Mullins ME, Stein J, Saini SS, Mueller PR. Prevalence of incidental Bochdalek's hernia in a large adult population. *AJR Am J Roentgenol.* 2001 Aug;177(2):363-6. doi: 10.2214/ajr.177.2.1770363. PMID: 11461863.
3. Schumacher L, Gilbert S. Congenital diaphragmatic hernia in the adult. *Thorac Surg Clin.* 2009 Nov;19(4):469-72. doi: 10.1016/j.thorsurg.2009.08.004. PMID: 20112629
4. Takahiro Hosokawa, Hiroaki Takahashi, Yusuke Miyasaka, Kenji Ohira, Yutaka Tanami, Ultrasound Evaluation of Dermal Sinuses/Fistulas in Pediatric Patients, *Journal of Ultrasound in Medicine*, 10.1002/jum.15016, 38, 12, (3107-3122), (2019).

