

An Unusual Case Report: Right sided Bochdalek Hernia with intestinal obstruction in an Adult.

BACKGROUND

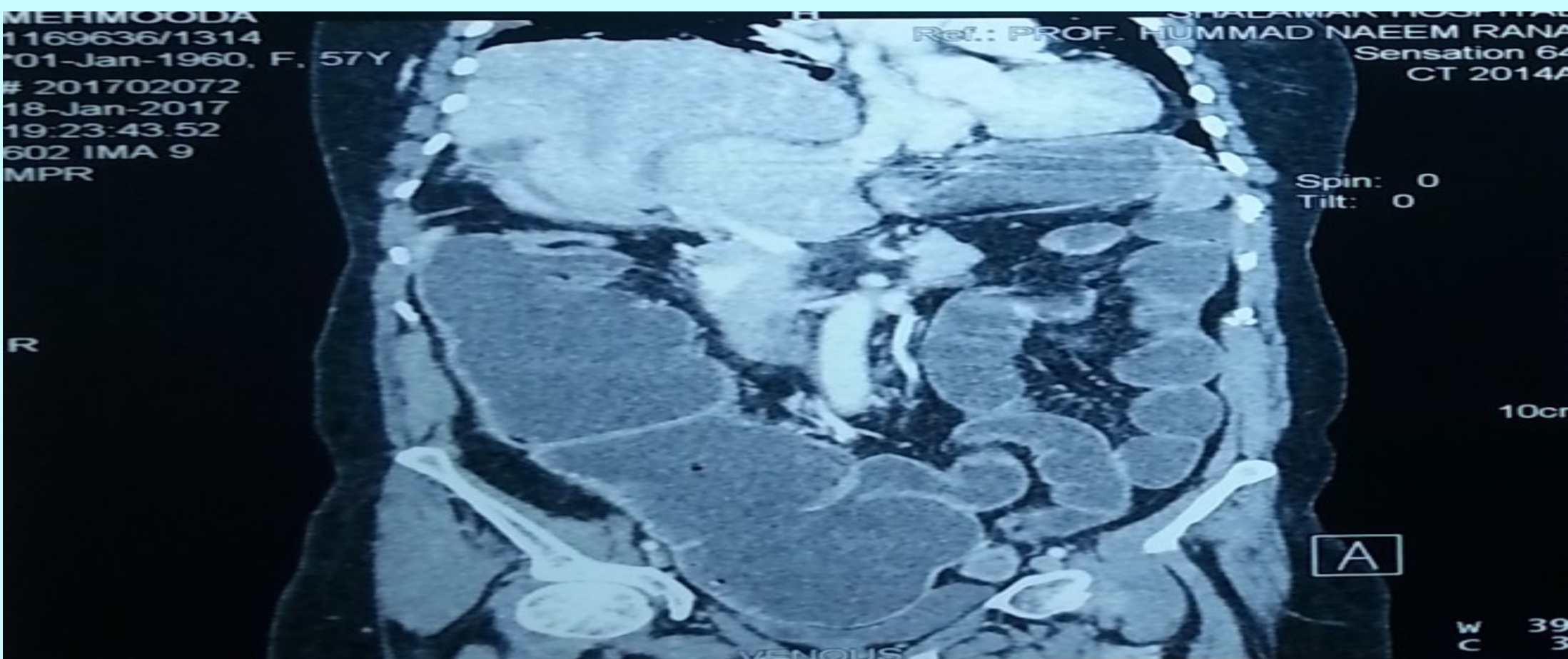
Bochdalek’s hernia is one of the most common congenital anomaly diagnosed in neonates with clinical features related to respiratory system. Contrary to neonates, clinical manifestation is rare in adults, and it is usually incidentally discovered in patients with gastrointestinal symptoms. Right sided hernias are rarer because right pleuro-peritoneal canal closes earlier and liver protects the right diaphragm. There are less than 100 cases of bochdalek’s hernia reported in adults in the literature and fewer than 20 of those cases involve the right sided hernia. We present a case of an adult who presented with intestinal obstruction which turns out to be right sided bochdalek’s hernia.

CASE REPORT

A 57 year old woman ,known case of interstitial lung disease ,hypertension and ischemic heart disease, presented in emergency department with complaints of generalized abdominal pain, constipation and vomiting. She was on ambulatory oxygen, steroids and immunosuppressive therapy for last 5 years. On admission, there was abdominal distension and tenderness over the whole abdomen, bowel sound was decreased. Apart from minimal hypokalemia, her laboratory values were normal. Abdominal radiograph showed evidence of abnormal bowel dilatation gas filled loop in the thoracic cavity.

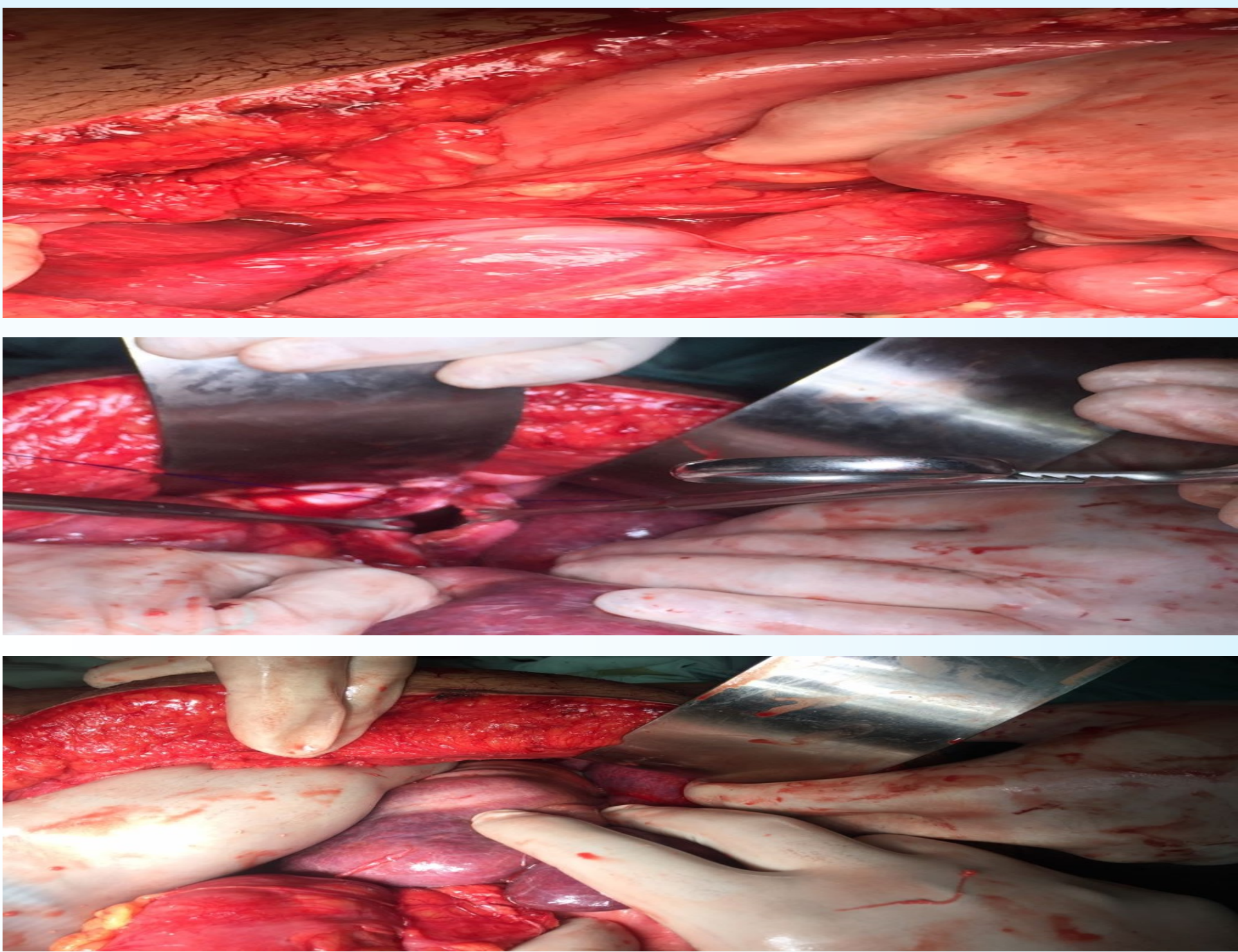
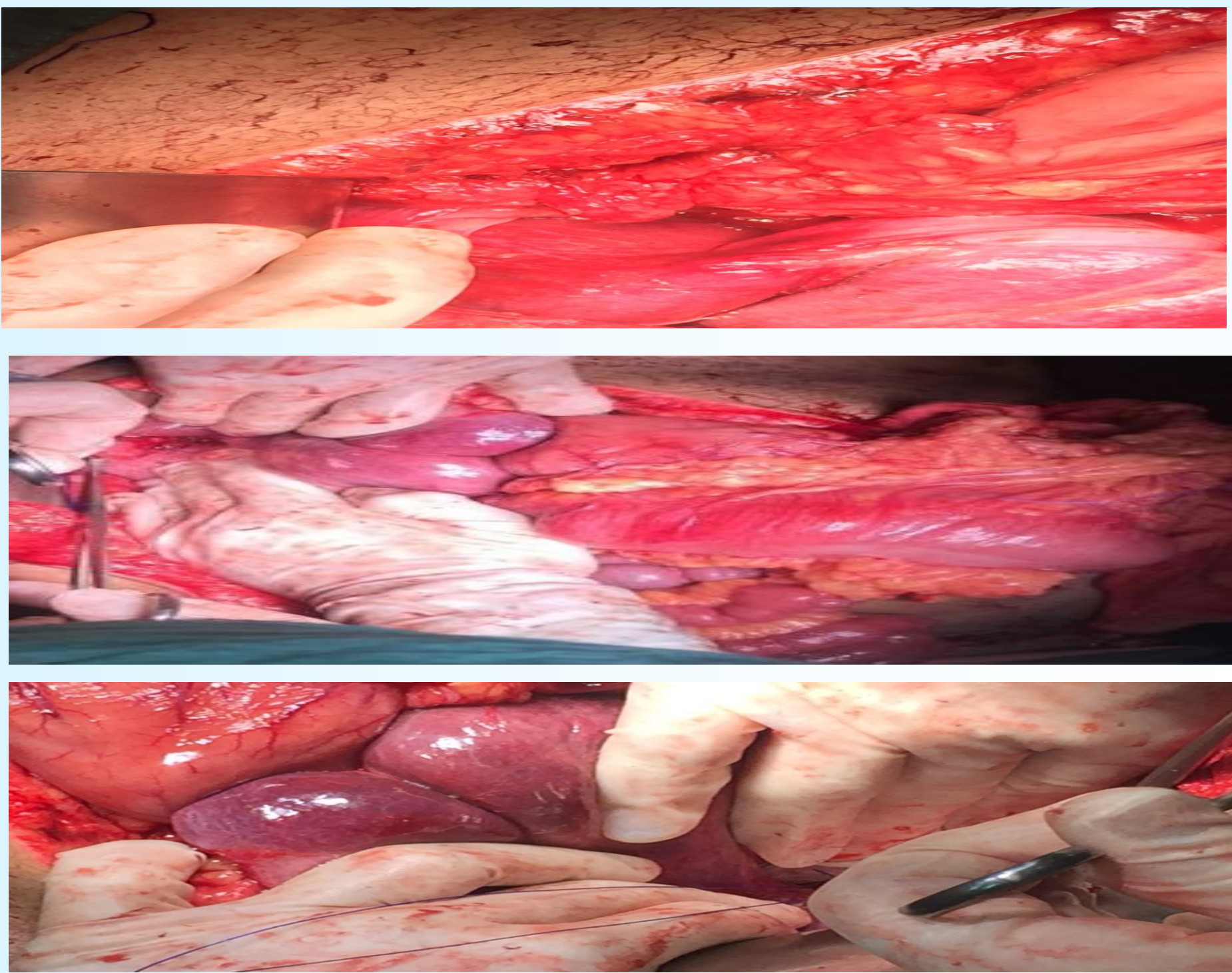


The computed tomography showed herniation of right lobe of the liver and hepatic flexure across the rent of right hemi diaphragm with partial vascular compromise of the right hepatic lobe and IVC which is compensated by prominent lumbar segmental and hemizygous veins draining into SVC as well as obstruction of colon with proximal cecum, ascending colon dilated and distally colon collapsed. Gastric pylorus and the first part of the duodenum along with gallbladder have also herniated.



PROCEDURE

After diagnosis patient was decompressed by nasogastric tube and optimized under high risk condition, exploratory laparotomy was performed; it showed 5 cm defect at right hemi -diaphragm with no sac present. Transverse colon along with hepatic flexure and right lobe of liver was found to be herniated into the right thoracic cavity through the defect. The transverse colon was pulled back into the abdomen and right hemi colectomy was performed due to gangrenous patches on ascending colon. The herniated part of right lobe of liver was reduced back to abdominal cavity. The diaphragmatic hernia defect was closed with primary sutures and drains were placed into the right thoracic cavity and right sub phrenic space. Patient was shifted to intensive care unit for monitoring for 2 days and then shifted back to ward. Her recovery was smooth initially but as patient was on steroid and immunosuppressive therapy, her abdominal wall dehiscence occurred on 7th postoperative day .She was rushed back to theatre and retention sutures were applied but again sutures gave away so Bogota bag was applied. Though she had a bit longer post-operative period with multiple daily dressings and monitoring ,overall her condition was satisfactory and she recovered well.



DISCUSSION

There are total 20 cases of right sided bochdalek’s hernia with single case of the right lobe of the liver and flexura hepatica of the colon herniation into the thorax cavity. The hernia was treated via thoracotomy assisted with laparoscopy .we are presenting the second rare case of right sided bochdalek’s hernia with right liver lobe and colon herniation ,treated effectively with midline laparotomy. A congenital diaphragmatic hernia occurs through anterior parasternal foramen (morgagni) or through posterior-lateral, mainly left sided defect (bochdalek) representing with persistent pleuroperitoneal canal. They are extremely rare in adults with approximately one hundred cases recorded in the literature. In addition, a literature search of bochdalek hernia with right sided containing colon in adults have shown 12 cases been reported in addition to this present case. Incidence of asymptomatic hernia in adult population has been estimated to be 1 in 2000 to 7000 to as high as 6% in early CT findings. Bochdalek hernias mostly present with pulmonary or gastrointestinal symptoms. In symptomatic bochdalek hernias in adults, typical manifestations are gastrointestinal symptoms related to obstruction of herniated organ as in our patient. Breathlessness, recurrent chest infection and other pulmonology sequel can still be presenting symptoms but they are less common presenting symptoms in adults than gastrointestinal complication. They are routinely diagnosable with plain film. These hernias are evidenced by abnormal finding above the dome of diaphragm such as gas filled loops of bowel or soft tissue mass. But due to low sensitivity of plain film chest radiograph, bochdalek hernia can be confused for other thoracic pathologies. Contrast computed tomography are more accurate in visualizing focal defects in the diaphragm and can definitely diagnose herniation

DISCUSSION

repeated plain film chest radiograph in previous years couldn’t reveal the hernia and was treated as interstitial lung disease due to respiratory symptoms and was only diagnosed on CT when presented with intestinal obstruction. In adults since the diagnosis is usually missed unless there is high index of suspicion and nearly 38% of adults are misdiagnosed as thoracic pathologies without computed tomography as in our case that was under treatment with pulmonologist. The management of bochdalek hernia is operative and reduction of hernia contents. Approach of the repair can be performed according to the clinical presentation such as intestinal obstruction or strangulation, abdominal approach are preferable as in our case. Right sided defects are traditionally dealt with a thoracic or thoraco-abdominal approach. For left sided hernia transthoracic or trans peritoneal approach can be applied. If bowel doesn’t show any sign of strangulation or necrosis transthoracic repair should be considered because it is simpler procedure to perform.

CONCLUSIONS

In adults, right sided bochdalek hernia is rare with late presentations and complication poses a difficulty in diagnosis, so a strong index of suspicion with imaging studies like computed tomography is needed to reach a correct diagnosis and management at appropriate timings to avoid inadvertent complications.

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