

Effective diagnostic tests include Doppler ultrasound, magnetic resonance imaging and angiography, which show the exact vascular architecture of the lesion in cases of high-flow lesions. Ultrasound and MRI were the tests indicated in our patient, since the latter correctly defines the origin of the lesion and its relationship with adjacent structures.

As for treatment, surgical removal is accepted as the definitive treatment, although we must take into account that the results are variable in terms of recurrences and the risk of intraoperative bleeding. Preoperative embolization in order to obliterate the abnormal arteriovenous connections can be useful to reduce bleeding and improve long-term recurrence rates.

We have not found in the literature any cases of intramuscular AVM such as the one presented in our patient. In conclusion, we can say that AVM of the chest wall are uncommon lesions, and that correct differential diagnosis is necessary for proper management. The only symptom of our patient was the sensation of a mass that had been growing since childhood.

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- Laura Arroyo Pareja*, Francisco García Gómez, María Dolores Barrera Talavera, Francisco Javier de la Cruz Lozano, Nicolás Moreno Mata
- Servicio de Cirugía Torácica, Hospital Universitario Virgen del Rocío, Unidad Medicoquirúrgica de Enfermedades Respiratorias (UMQER), Instituto de Biomedicina de Sevilla (IBIS), Centro de Investigación en Red de Enfermedades Respiratorias (CIBERES), Sevilla, Spain
- *Corresponding author.
E-mail address: laura_ap_84@hotmail.com (L. Arroyo Pareja).
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Transdiaphragmatic Approach for Hepatopulmonary Metastasis: Cases That Support Its Reliability and Safety

Abordaje transdiafragmático de metástasis hepatopulmonares: casos que apoyan su viabilidad y seguridad

Advances in oncology and surgical technique, along with studies that demonstrate its importance in survival,^{1,2} have led to metastatic cancer surgery becoming more frequent. The liver and lungs represent the most common sites of metastasis, particularly in colorectal neoplasms.³ The treatment strategy to be followed in these patients continues to be full of controversy. There are therapeutic regimens that advocate initial resection of the metastases and later resection of the primary tumor, while others recommend the opposite. It is true, however, that there are no data to fully support either

vision.^{4,5} Nonetheless, it seems logical to try to perform the treatment during the same surgery, whenever possible.

Some months ago, our unit treated a 63-year-old woman, with no previous history of interest, who was diagnosed with adenocarcinoma at the descending colon-sigmoid junction with numerous unresectable synchronous hepatic and pulmonary metastases, for which she had received neoadjuvant chemotherapy with 5-fluorouracil (5-FU) and oxaliplatin. Post-chemotherapy follow-up studies showed its effectiveness, as the disease was reduced to the sigmoid

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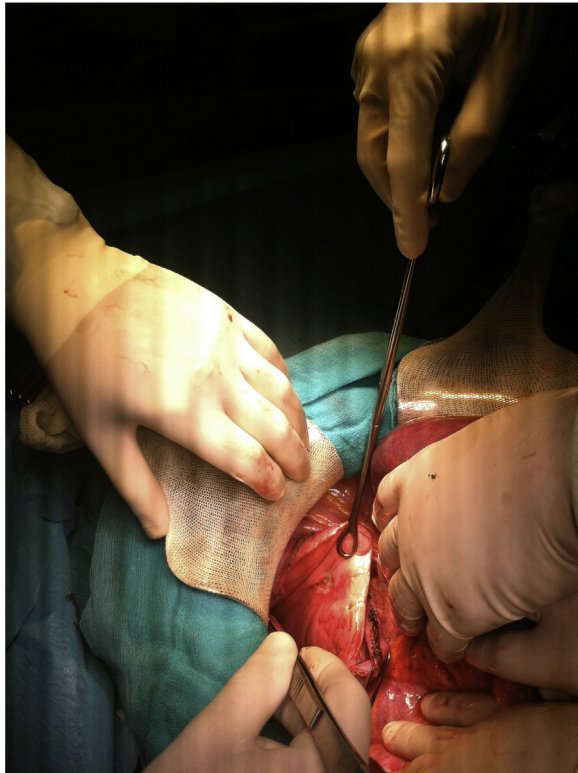


Fig. 1 – Traction of the lung base and identification of the metastasis.

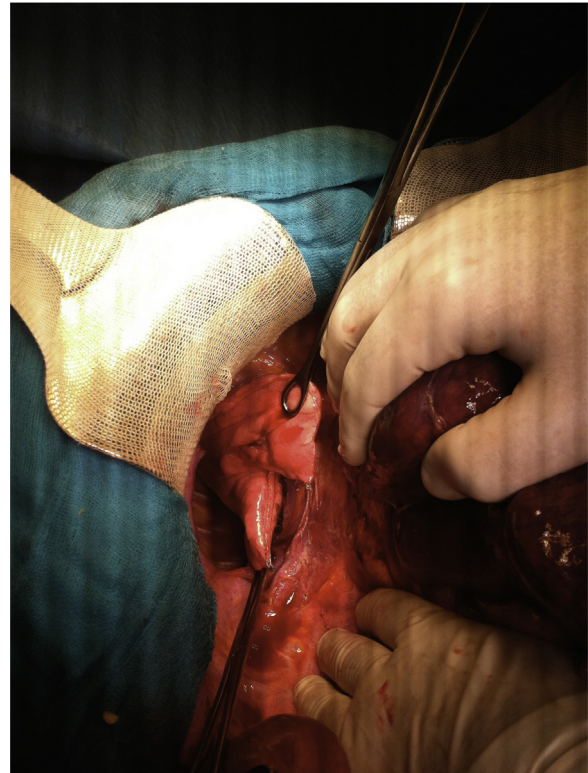


Fig. 2 – Dissection of the lung base with an endostapler.

lesion, a single hepatic metastasis measuring 2.5 cm in segment VII and another single lesion measuring 2 cm in the right lung base.

Through a Río-Branco incision and after confirming the single liver lesion by intraoperative ultrasound, the following procedures were carried out in this order: hepatic and lung metastasectomies, and left hemicolectomy with primary end-to-end anastomosis. The approach of the pulmonary tumor was done transdiaphragmatically, with opening of the right diaphragm and traction of the lung base toward the abdominal cavity (Fig. 1). Once the lesion was located, it was resected with a stapler (Fig. 2). Afterwards, the diaphragm was closed with a continuous suture of absorbable material, leaving a drain tube in the pleural space. Prior to closing, two other drains were inserted in the abdominal cavity.

The patient had a favorable recovery and 48 h after surgery the pleural drain and one of the abdominal drains were withdrawn. The other drain was removed on the sixth day post-op upon being discharged with no surgical complications. At the writing of this paper six months after surgery, there were no complications and the patient remained disease free.

Patients who present liver metastases at the time of diagnosis often have synchronous lung lesions. In experienced hospitals, when these tumors are resectable, these patients may benefit from a combined approach during the same surgical intervention. The standard procedure, even when performed in the same operation, usually involves both abdominal and thoracic approaches.⁶ Nevertheless, some selected cases, such as ours, with lesions located in the liver and right lung, can be completely resected with a single

approach. This surgical strategy reduces operating time as well as complications associated with prolonged anesthesia. In addition, an incision less would also logically imply a lower rate of surgical site complications. In our case, the patient had three tumor foci resected from three different organs through a single incision, with no morbidity associated with the procedure. This is the first published case of a resected primary colorectal tumor with liver and lung metastases in the same surgery using the transdiaphragmatic approach.

Only a few similar cases have been reported in the literature to date. In 2006, Dionigi et al.⁷ published a series of three patients who underwent abdominal and thoracic procedures using the transdiaphragmatic approach and minimally invasive instruments. Like us, Dionigi concluded that in expert hands this procedure is feasible and safe. From another point of view, the opposite approach has also been reported with satisfactory results. In 2008, Delis et al.⁸ presented a series of 7 patients who simultaneously underwent resection of liver (located in segments VII and/or VIII) and lung metastases using the transdiaphragmatic approach and thoracotomy exclusively, without finding additional complications with this surgical technique.

In conclusion, according to the limited literature on the subject and based on our experience, the transdiaphragmatic approach seems to be safe and feasible for the removal of metastatic lesions of the liver and lung. Thus, patients with resectable hepatopulmonary metastatic disease may benefit from treatment in a single surgery and, in selected cases, the transdiaphragmatic approach. In the future, a further step along these lines will be the resection of a primary tumor, liver

and lung metastases in one surgical intervention and using a single, minimally invasive approach, be it either thoracoscopic or laparoscopic.

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Francisco Javier Medina Fernández^{a,*},
Dionisio Espinosa Jiménez^b, Antonio Luque Molina^a,
Pedro López Cillero^a, Sebastián Rufián Peña^a

^aUnidad de Gestión Clínica de Cirugía General y del Aparato Digestivo, Hospital Universitario Reina Sofía, Córdoba, Spain

^bUnidad de Gestión Clínica de Cirugía Torácica, Hospital Universitario Reina Sofía, Córdoba, Spain

*Corresponding author.

E-mail address: mefef.dr@gmail.com (F.J. Medina Fernández).

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Acute Fulminating Emphysematous Cholecystitis After Cardiac Surgery

Colecistitis aguda enfisematosa de curso fulminante tras cirugía cardíaca

Acute emphysematous cholecystitis is a rare disease with a poor prognosis that represents between 1% and 3% of all acute cholecystitis.¹ It is characterized by the presence of gas in the gallbladder lumen, wall and pericholecystic tissue caused by gas-producing microorganisms. It is more frequent in diabetic or immunosuppressed patients.²

Cases of acute cholecystitis after cardiac surgery often debut days or weeks after the procedure, and fatal emphysematous cholecystitis within hours of surgery is exceptional. We present a case of sudden acute emphysematous cholecystitis after cardiac surgery.

The patient was a 68-year-old woman with a history of hypertension under medical treatment, anticoagulation for atrial fibrillation and commissurotomy due to rheumatic mitral stenosis 10 years earlier.

The patient underwent scheduled surgery for double aortic valve lesion with a predominance of severe stenosis, which involved the placement of a mechanical aortic prosthesis (cardiopulmonary bypass time 120 min and

aortic clamping time 60 min), with no intraoperative complications.

Eight hours after surgery and while still on mechanical ventilation, the patient began abruptly with oliguria, hypotension and tachycardia. Work-up revealed an increase in lactate levels of 9.3 mg/dl, Hb 8.3 g/dl (the patient left the operating room with 11 g/dl) with no bloody discharge through the drains. An upper GI endoscopy was performed to rule out gastrointestinal bleeding, and ischemic gastric mucous membranes were observed. Follow-up analysis showed: GOT 4418; GPT 3195; prothrombin activity 33%; CPK 9013. Emergency CT scan revealed patchy hypodense areas in the liver, permeable hepatic artery and portal vein, acalculous emphysematous cholecystitis and left renal artery thrombosis starting at the aorta (Fig. 1).

Given these findings, emergency exploratory laparotomy was indicated, which demonstrated acute emphysematous cholecystitis, patches of hepatic ischemia and ischemic bowel loops. Cholecystectomy was performed, and bile samples were taken for culture.

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