

Figure. Chest x-ray showing the button battery impacted in the right main bronchus.

Amoxicillin and clavulanic acid were prescribed over 3 days and a course of prednisolone tapering over 2 weeks, after which the child did not show any symptoms, presenting normal respiratory auscultation and chest radiograph.

Around 15%-20% of foreign body aspirations into the lower airway are inorganic objects, according to several series,^{1,2} however, they cause greater risk of death by suffocation.³ On the other hand, button batteries have often been extracted from the external auditory canal, nasal cavities and gastrointestinal tract.⁴ However, we had not found any cases of aspiration of a battery in the airway, which motivated this paper. As well as being obstructive, button batteries can damage tissue by leaking chemical substances, transmitting electrical currents or compressing the area.^{4,5} Impaction in the oesophagus

can cause lesions independently from exposure time and serious damage causing permanent consequences or death.⁶ In our case no damage was observed in the bronchus mucosa during the bronchoscopy. The recovered zinc-air battery, is one of the safest batteries with regard to fragmentation and leaking of interior material, and because it is small in size. These factors would have made it less likely for lesions to occur in our patient.

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Single-Lung Transplant in a Child with Cystic Fibrosis

Trasplante unipulmonar infantil en paciente con fibrosis quística

To the Editor:

Double-lung transplant is the treatment of choice for patients in the final stages of cystic fibrosis (CF).^{1,2} The primary cause of death is respiratory failure. Due to the damage from repeated bilateral infection and bronchiectasis, a double-lung transplant is performed.³ There are very few cases in the medical literature of a single-lung transplant in patients with cystic fibrosis, and only one documented case in which the recipient was a child.

We present the case of a 15-year old boy, diagnosed with CF since his first year of life, with multiple hospital admissions for recurrent respiratory infections. Three years prior to the transplant, the patient received a left pneumonectomy at another centre due to chronic massive atelectasis and residual bronchiectasis in the operated lung. Following an initial improvement after the surgery, subsequent evolution was negative, and following several infectious exacerbations, the patient was sent to our centre for evaluation as a possible candidate for lung transplant. After the evaluation was completed, the patient was accepted as a right single-lung transplant candidate, since the asymmetry between the two hemithorax from the previous surgery precluded a double-lung transplant: the left cavity was occupied by the heart and mediastinal structures. At the time of transplant, the patient presented with ventilatory failure with severe hypercapnia secondary to an infectious exacerbation, requiring non-invasive ventilatory assistance 24 hrs before the procedure with

BIPAP (Bi-level Positive Airway Pressure). We performed a trans-sternal bilateral thoracotomy. Following the dissection of the right lung prior to the pneumonectomy, the patient was connected to extracorporeal circulation (EC) by aortic root and bicaval cannulation. The right lung implantation was carried out under EC (Figure). The patient was then taken to the ICU where he was extubated following 48 hrs, and stayed there for 8 days. He was discharged after 25 days. Currently, 9 months after the procedure, the patient is stable with good implant functioning and no signs of infection or rejection. Today there continue to be certain discrepancies regarding the type of transplant (single-lung or double-lung) to perform for certain pulmonary illnesses such as COPD; however, it is clear that they must be double-lung in cases of CF due to the bilateral damage created by this disease and the risk involved in leaving one lung in place as a source of infection for the new graft.¹⁻³ Very few cases exist in the medical literature on single-lung transplants for CF. All were patients receiving pneumonectomies before or after the transplantation due to technical problems, such as a destroyed lung; in these cases, the pneumonectomy was performed on said lung after the unilateral transplantation.^{4,5} There is only one documented case of a single-lung transplantation in a child with CF.⁶ Our case presented the first instance of such a procedure in our country. The complexity of this procedure lies in the asymmetry of the two hemithorax due to the retraction suffered by the operated side, as well as the displacement of the mediastinal structures of said hemithorax, making a double-lung transplant impossible. It was necessary to wait for an organ of the size and characteristics appropriate for the cavity. Additionally, since the patient had only one lung, we had to perform the transplant under EC with all of the

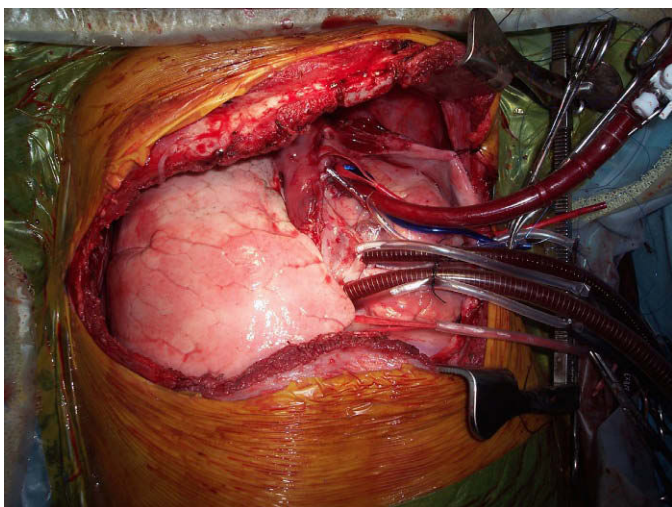


Figure. Finalized surgery in which the newly implanted organ and cardiac cannulation (aortic and bicaval) can be observed.

corresponding risks. Considering the current state of the patient, we believe that, in spite of the complexity of the transplantation and increased time on the wait list for an appropriate organ, single-lung transplants under EC can be a valid option for those CF patients with

asymmetric cavities (destroyed lung) that preclude double-lung transplants, when a pneumonectomy is performed prior to or following the transplantation and no source of infection exists for the new implanted organ.

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