Shortness of Breath and Cyanosis in a Patient with Dermatitis Herpetiformis

Disnea y cianosis acra en paciente con dermatitis herpetiforme

To the Editor:

During chronic treatment with sulfones diverse side effects have been described and one of the most frequent is haemolytic anaemia. Methaemoglobinaemiaemia[1] has also been described, but less frequently.

We present the case of a 68 year old woman, non-smoker, with a history of autoimmune thyroiditis, coeliac disease with anaemia due to vitamin B12 deficiency and dermatitis herpetiformis treated with dapsone, with no cardiologic or respiratory history of interest. The patient sought consultation for a long evolving dyspnoea that had worsened progressively in the previous month. The physical examination showed oxygen saturation (breathing common air) through pulse oximetry of 84%, cyanosis acra and scabby lesions indicative of dermatitis herpetiformis, while the rest of the examination (included cardio-respiratory) was normal. An arterial gasometry was performed (inspired oxygen fraction: 0.21), where an oxygen blood pressure of 74.9mmHg, with bicarbonates, pH and carbon dioxide blood pressure correct were observed. The haemoglobin was 8.2g/dl; the remaining of the analysis and blood count was normal. There were no significant findings in the chest x-ray, the ventilation-profusion study with computerised tomography by emission of simple photons-computerised tomography displayed no signs indicative of pulmonary thromboembolism and the echocardiogram was normal. The anaemia study showed probable haemolytic cause. Given the findings of the physical examination, the background of treatment with sulfones and the discordance between the arterial pulse oximetry and the gasometry, a determination of methaemoglobin was requested, resulting to be 6%, therefore, with the diagnostic orientation of methaemoglobinaemia secondary to treatment with sulfones, this treatment was interrupted and oxygen therapy with vitamin C treatment commenced. The glucose-6-phosphate dehydrogenase deficiency study was negative. The patient presented an evident improvement with the restored treatment from the outlook of the dyspnoea and the cyanosis. At 7 days, the methaemoglobin values were 0.7% and the oxygen saturation by pulse oximetry was 97%, so the oxygen therapy was definitively withdrawn and the patient was discharged.

Methaemoglobinaemia was described as a complication to the treatment with sulfones,[1] but there are many drugs that could cause this, in particular local anaesthetics.[2,3] The patients could present dyspnoea, cyanosis acra or chest pain[3] and this should be suspected when the arterial gasometry oxygen pressure reading is over that expected by the pulse oximetry. The patient context (consumption of certain drugs) could help the orientation. Diagnosis is confirmed by cooximetry. Methaemoglobinaemia exists when the methaemoglobin is superior to 1-2% of the circulating haemoglobin.[2,3]

In most of the literature published, cyanosis appears when the concentrations of methaemoglobin are between 15 and 20% and there may be other symptoms, such as migraine, fatigue and dyspnoea, with values from 25 to 40%.[4] However, cases have been described that presented cyanosis and dyspnoea with values of methaemoglobin in blood of 8 to 12%.[5] Most of the patients had anaemia, which seems to influence the methaemoglobin values needed. This was the case of our patient, who simultaneously presented haemolytic anaemia, secondary to the treatment with dapsone.

In conclusion, we believe that faced with a case of dyspnoea with cyanosis and discordance between the arterial gasometry and the pulse oximetry, once respiratory and cardiologic affectation have been discarded, in a patient under sulfone treatment, methaemoglobinaemia should be suspected and it must be kept in mind that in the context of anaemia, the clinical results may appear with methaemoglobin values inferior to those described in most literature.

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Estefanía Sánchez-Martínez,* Ignasi Garcia-Olivé, and Joan Ruiz-anzano

Servei de Pneumologia, Hospital Universitari Germans Trias i Pujol, Badalona, Barcelona, Spain

*Corresponding author.
E-mail address: restrepom@uthscsa.edu (E. Sánchez-Martínez).

Aspiration of a Button Battery: A Unique Case in Medical Literature

Aspiración de pila de botón: caso único en la literatura médica

To the Editor,

It is relatively common for infants to swallow foreign bodies, which can be a risk to their life. Children have a tendency to put objects in their mouths, and since they do not have any teeth at this age and are not able to coordinate between swallowing and closing of the glottis, aspiration is likely to occur. The nature of the objects is very varied: natural products above all (nuts, seeds from fruit), plastic objects (parts from toys) and metal objects (safety pins, paper clips) can be aspirated. We present the unpublished case of a boy who had ingested a hearing-aid button battery.

The boy is 5 years old and previously healthy. The parents said that he had put the battery from his mother's hearing prosthesis into his mouth while at home. After, he suffered an episode of suffocation, causing his face to redden, severe coughing and breathing difficulty, as well as vomiting when coughing. When he arrived at the centre referred to, all of the symptoms had disappeared. The chest radiograph showed the button battery impacted in the right main bronchus (Figure), meaning that he was referred to our hospital. When he was physically examined, hypoventilation was highlighted, which affected the lower two thirds of the right hemithorax, and auscultation showing no rales. There were no changes in the haematological, biochemical**,** and coagulation tests**.** Twelve hours later, a rigid bronchoscopy was carried out, and a zinc-air hearing-aid button battery was extracted, measuring 8x5mm, which completely occluded the right main bronchus. Alter its extraction, the battery was in one piece, with bite marks and a voltage of 0.3W.

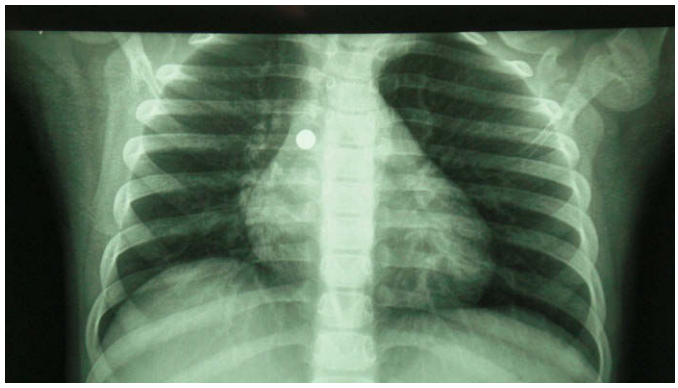

Figure. Chest x-ray showing the button battery impacted in the right main bronchus.

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] Impactation 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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Luis Moral,* José Vicente Serna, and Beatriz Castillo

Departamento de Pediatría, Hospital General Universitario de Alicante, Alicante, Spain

*Corresponding author.
E-mail address: lmoralg@coma.es (L. Moral).

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