

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. Methaemoglobinaemia¹ 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-perfusion 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values were 0.7% and the oxygen saturation by pulse oximetry was 97%, so the oxygen therapy was definitively withdrawn and the patient was discharged.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 pain³ 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.

References

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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. After its extraction, the battery was in one piece, with bite marks and a voltage of 0.3W.