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Short communication

Transient trochlear nerve palsy following percutaneous angioplasty☆

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ABSTRACT

Case report: A case is presented of a 63-year-old man who suffered a unilateral isolated trochlear nerve palsy with vertical diplopia following an elective radial coronary angiography and percutaneous coronary intervention, which resolved spontaneously within 2 months.
Discussion: Ophthalmoplegia following coronary percutaneous angioplasty is rare. Only internuclear ophthalmoplegia, III and VI cranial nerve palsy have been previously reported following percutaneous angioplasty. This is the first reported case of unilateral isolated trochlear nerve ophthalmoplegia following this procedure.

Paresia transitoria del nervio troclear tras angioplastia percutánea

Palabras clave:
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RESUMEN

Caso clínico: Presentamos el caso de un varón de 63 años con paresia troclear unilateral derecha que comenzó con diplopía vertical tras someterse a una angiografía coronaria programada con intervención percutánea coronaria por vía radial. Se resolvió espontáneamente en 2 meses.
Discusión: La oftalmoplejía tras la realización de angioplastia percutánea coronaria es una situación rara. Solamente se han descrito oftalmoplejías internucleares y paresias de los pares craneales III y VI tras angioplastias percutáneas, siendo este el primer caso de oftalmoplejía aislada del IV par craneal unilateral descrito tras dicho procedimiento.

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Clinical case

The case of a 63-year-old man with a personal history of hypercholesterolemia is presented. The patient is a former smoker and with effort angina that required scheduled percutaneous coronary angioplasty of one vessel (middle anterior descending coronary) 6 months earlier. The patient had never had diplopia and was in treatment with clopidogrel, aspirin, enalapril, bisoprolol, atorvastatin and omeprazole.

The patient was re-admitted for reappearance of effort angina to undergo a second scheduled angiogram in which percutaneous angioplasty was performed with re-dilatation and atherectomy with cut-off balloon and posterior stent-overlap implant with prior stent in the anterior descending middle artery, radially performed. After the procedure, the patient suffered vertical binocular diplopia both in primary gaze position and in reading position. The first ophthalmological exploration produced a visual acuity of 1 in both eyes without correction, diplopia in Worth's lights, slight head to left shoulder torticollis in binocular vision and hypertropia of 4 prismatic diopters in Cover test. Bielschowsky's test was positive with greater hypertropia when tilting the head over the right shoulder. In the versions, there was an increase in the hypertropia of the RE in levoversion and no clear limitations were observed in the ductions (Fig. 1). Retinography showed slight RE excyclotorsion (Fig. 2). No ptosis was observed, the pupils and the anterior pole did not present significant findings. The patient did not present any other associated neurological focus. The Lancaster test confirmed a mild hyperphoria of the RE (Fig. 3 above).

Management was conservative and the patient was discharged, with double antiaggregation for cardiological indication, after checking stability during 48 h. Two weeks later, neurological and ophthalmological exploration and Lancaster tests remained unchanged. Two months after baseline, the Lancaster test showed correction of the previous hyperphoria (Fig. 3, below), so the condition was assumed to be resolved. Given the temporal sequence and the neuro-ophthalmological findings, it was concluded that the IV unilateral cranial nerve palsy was related to the angiography and coronary percutaneous intervention.

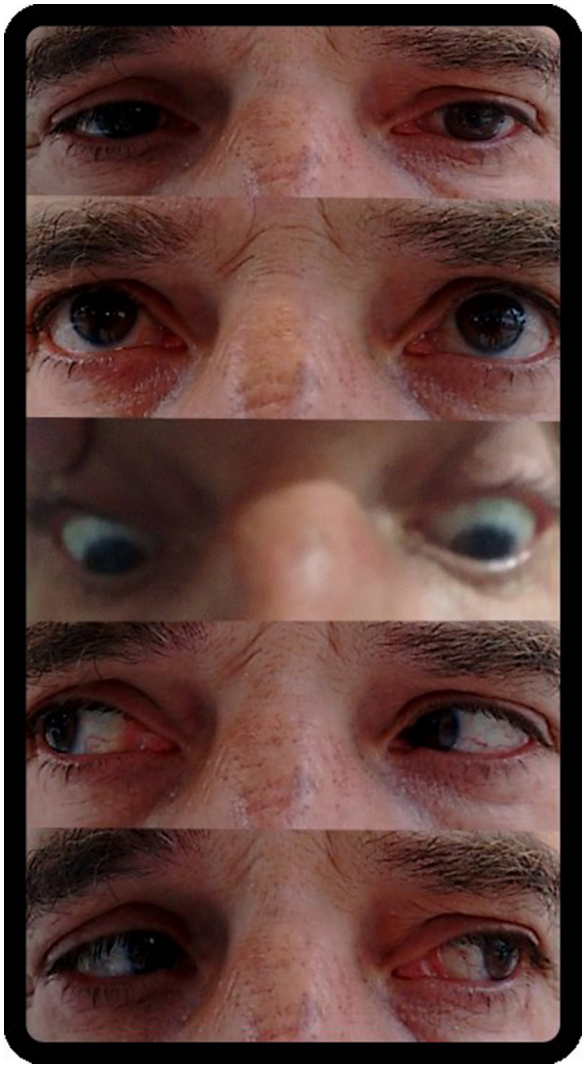

Fig. 1 – Photos of patient eyes. Images in primary gaze position in supraversion, infraversion, dextroversion and levoversion are shown. Mild hypertrophy of the RE in aduction was observed.

Discussion

Since there is an incidence of acute stroke in 0.56% of cases after percutaneous coronary interventions,[1] it is possible that the patient presented an isolated ischemic event of the unilateral trochlear nerve by the release of micro-emboli during the procedure, producing a palsy of the right superior oblique muscle. However, the literature search confirms that this may be the first published case of isolated palsy of the unilateral superior oblique muscle after coronary angiography with percutaneous coronary intervention.

The proposed differential diagnosis was contrast-induced neurotoxicity. It is another rare complication described after performing an angiography.[2] Clinic begins minutes after the contrast injection and the patient may present confusion, seizures, transient cortical blindness and ophthalmoparesis, the latter very infrequently, with complete resolution 24–48 h after the procedure.[2] Except for hypertension, the patient did not present additional risk factors such as altered renal function (normal before and after the procedure), diabetes mellitus, a requirement for large amounts of contrast or the use of ionic contrasts.[2] Once this option was discarded, the first hypothesis was more likely, i.e. that the patient may have suffered an acute stroke due to the release of micro-emboli during the intervention.

So far only one publication of internuclear ophthalmoplegia,[3] 2 cases of unilateral CP III palsy,[4,5] one of unilateral CP VI,[6] and another one with bilateral affectation (right CP III and decompensation of a contralateral trochlear left possibly pre-existing palsy)[7] after percutaneous coronary angioplasty have been described. The literature confirms that this is the first described case of isolated palsy of the IV unilateral cranial nerve. In previous cases, it has been hypothesized that the clinical symptoms may be due to the release of micro-emboli.[4,5,7] The authors support the