ABSTRACT

Clinical case: A 29-year-old woman presented with a subjective sensation of ocular asymmetry from several months beforehand. Ophthalmological exam showed 3.5 mm right enophthalmos and light hypoglobus. CT (Computerized Tomography) scan showed a collapsed maxillary sinus, and a thinned inferior orbital wall. The diagnosis of silent sinus syndrome was made. An endoscopic maxillary antrostomy with uncinectomy was made with an excellent surgical outcome.

Discussion: Clinical features of silent sinus syndrome are described, including diagnosis, differential diagnosis and treatment (Arch Soc Esp Oftalmol 2007; 82: 125-128).

Key words: Enophthalmos, silent sinus syndrome, hypoglobus, sinusitis, endoscopic antrostomy.

RESUMEN

Caso clínico: Una paciente de 29 años de edad acudió para valoración de sensación subjetiva de asimetria ocular de meses de evolución. El examen oftalmológico apreció un enoftalmos de 3.5 mm y un leve desplazamiento inferior del globo. Una TAC (Tomografía Axial Computerizada) demostró un colapso del seno maxilar, con adelgazamiento y abombamiento inferior del suelo de la orbita. Se confirmó el diagnóstico de síndrome del seno silente. Fue intervenida, practicándose una antrostomía endoscópica con franca mejoría clínica.

Discusión: Se comentan las características clínicas del síndrome del seno silente, así como su diagnóstico, diagnóstico diferencial y tratamiento.

Palabras clave: Enoftalmos, síndrome del seno silente, hipoglobo, sinusitis, antrostomía endoscópica.
visual acuity of 1 in both eyes without correction and normal intrinsic and extrinsic ocular motility. Exophthalmometry was of 12.5 mm in the right eye and 16 mm in the left one. A visual examination showed that the right ocular globe had an inferior displacement of 1 mm (fig. 2). In addition, there was an increase in the superior palpebral groove, with superior palpebral retraction with inferior gaze (fig. 3). The rest of the ophthalmological exploration was normal.

A CAT scan was performed, which revealed a collapsed right maxillary sinus with volume reduction, an internal retraction of the walls and an inferior thinning and displacement of the orbit floor. The process was retracted towards the orbitary wall, obstructing the infundibulum of the maxillary sinus (fig. 4).

**DISCUSSION**

A sub-group of patients affected with chronic maxillary atelectasis with reduction of sinus volume and centripetal retraction of the maxillary walls, arising without any type of nasal or sinusal history

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*Fig. 1: Photo of the patient several months before the condition, showing normal orbitary symmetry.*

*Fig. 2: Observe right enophthalmos, slight inferior displacement and obvious facial asymmetry.*

*Fig. 3: Superior palpebral retraction of the right eye in down-looking gaze.*

*Fig. 4: Crown CAT showing collapsed right maxillary sinus with downwardly curved displacement of the upper wall. Partially opacified ethmoid with mucous thickening.*
excepting a substantial deformation of the bone walls and enophthalmos. Said sub-group has been given the name of “Silent Sinus Syndrome” (SSS). Although initially described by Montgomery in the pre-CAT days, the concept was introduced by Soparkar et al (1) in 1994.

Since then the association of enophthalmos and maxillary atelectasis has been described with greater frequency both in nose, ear and throat and in ophthalmological publications.

The symptom of onset of SSS is a spontaneous enophthalmos coursing in several weeks of months. Typically, it appears between 30 and 50 years of age regardless of gender and, apparently with lower prevalence among smokers (2).

On many occasions, patients visit the ophthalmologist for ocular asymmetry assessment and can be labeled as having contralateral exophthalmos. At the clinical level, it courses with enophthalmos and hypo-globe. The symptoms it can exhibit include changes in the involved side of the face, orbital asymmetry, sinking of the superior palpebral orbitary groove, disappearance of the palpebral fold line, palpebral retraction (more apparent than real due to the ocular globe dystopia), retraction of the upper eyelid in downward gaze and (very infrequently) lagophthalmos. Less frequently, said patients can refer diplopia (which is nearly always vertical), blepharoptosis, oscilloscopy or even perception of an audible sound when blinking due to the entrapment of air in conjunctival recesses. Typically, the visual function is preserved.

The physiopathology of chronic maxillary atelectasis is a matter of controversy. Although some authors postulate the presence of a basal hypo-plastic sinus, other suggest an acquired process in which the retraction of the maxillary sinus walls is produced by the negative pressure inside the sinus induced by the obstruction of the maxillary ostium in the medium meatus. This proposal is supported by normal X-ray images in patients with studies prior to the development of the condition.

According to Kass, maxillary atelectasis develops in 3 stages, based on the degree of maxillary deformation. The first stage is characterized by a deformity of the membrane and lateralization of the maxillary fontanella. The second, by bone deformities (retraction of one or more sinus walls), while the third stage exhibits the clinical signs of enophthalmos, hypo-globe and/or deformation of the affected side of the face (3).

The exploration of choice is CAT, both axial and coronal. The radiological findings include collapse of the infundibulum medial wall, obstruction of the bone meatus complex, lateralization of the uncinate process, opacification of the maxillary sinus, retraction of the posterolateral, superior, anterior and medial walls of the sinus, increase of the pterygopalatine and infra-temporal fossae, elevation of the canine fossa and relative lateral displacement of the infra-orbital channel (4). In what concerns the orbit, it evidences an inferior displacement of the globe and the extra-ocular muscles with greater involvement of the inferior rectus muscle. The orbital soft tissue appears normal.

An image with pseudo-pneumo-orbit may appear due to the air entrapped under the upper eyelid and in the superior conjunctival recesses (5).

A differential diagnostic must be made vis-à-vis other causes of enophthalmos and hypo-globe such as traumatism, carcinoma, orbitary varicose, osteomyelitis, Parry-Romberg syndrome, lineal sclerodermia and lypodystrophy.

The purpose of the treatment is to restore a normal ventilation of the maxillary sinus and the normal position of the ocular globe. But first, the sinus must be repaired via surgery with an endoscopic maxillary antrostomy with uncinectomy.

As regards the enophthalmos and hypo-globe, they can be corrected at the same time as the sinus by placing an orbitary implant. Alternatively, it is possible to wait for a clinical improvement after the first surgery (50 %) and carry out the orbitary reconstruction with a second operation if necessary.

REFERENCES