INTRODUCTION
Graves ophthalmopathy (GO) is an autoimmune disorder first described in 1835 by Robert Graves and it represents the most frequent and important expression of Graves’ disease, which causes cosmetic changes and dysfunctions. Women are more frequently affected than men, with a female to male ratio of 4:1. It is a disorder with an incidence of 42 per million per year. When eyelid changes are excluded, GO is clinically apparent in 10-25% of patients and, if eyelid changes are included, it appears in 30-45% of patients.

Graves disease is associated with hypermetabolism, enlargement of the thyroid gland and exophthalmos, the orbit being affected due to the expression of organ-specific autoantibodies against the thyroid-stimulating receptor (TSH receptor), which is present in both thyroid and periocular tissue. GO is an extenuating disease that adversely interferes with the quality of life of the affected patients. The spectrum of eye changes ranges from eyelid retraction, which results in the appearance of a “stare”, to proptosis, corneal exposure and ulceration, diplopia and loss of vision. Its symptomatology implies chemosis, conjunctivitis and mild proptosis, and also lid lag, which are nonspecific signs.

Surgical decompression was first described by Dollinger who advocated removal of the lateral orbital wall for decompression into the temporal fossa (the Krönlein procedure). Decompression into the paranasal sinuses was first analysed by Sewell who described decompression into the ethmoid sinus, and later it was Hirsch who reported the removal of the inferior orbital floor with decompression into the maxillary sinus. Indications for orbital decompression are: visual acuity, lagophthalmos and cosmetic aspect. Advantages of endoscopic orbital decompression (EOD) relative to open approaches include improved visualization of key anatomical landmarks, lower complication rates and the obviation of facial scars. There may be several types of orbital decompression: endoscopic decompression of one wall, two walls, three walls.

CASE REPORT
In September 2016, a 41-year-old man with severe GO symptoms was referred by ophthalmologists at the Institute of Phono-Audiology and Functional ENT Surgery for which we performed an endoscopic orbital decompression with good surgical outcome, the patient being discharged after 48 hours.

Keywords: endoscopic sinus surgery, Graves ophthalmopathy, orbital decompression.
Surgery of Bucharest, 1st Department. He experienced chronic eye pain, inconstant double vision, chemosis, proptosis, swelling of the upper and lower eyelids and the retraction of the upper eyelid. The funduscopic examination revealed papilloedema. Thin-slice computed tomography of the orbits revealed signs of GO, including enlarged intraorbital muscles and oedema of the periorbital fat. According to the Graves Orbitopathy Severity Assessment, the patient had the moderate grade 7. It was decided to perform an endoscopic surgical decompression of both orbits. Therefore, the patient was scheduled for a one-wall decompression on both sides.

Under general anaesthesia, the uncinate process was removed and a total ethmoidectomy was performed. The lamina papyracea, the middle turbinate and the skull base were exposed (Figure 1). The lamina papyracea was decompressed from the anterior to the posterior area, starting superiorly close to the ethmoidal roof with the visualization of the periorbita. The Tenon capsule was visualized and incised with the sickle knife (Figure 2). The orbital fat prolapsed medially at first without any pressure on the eyeball, after which a little bit of pressure was applied on the eyeball within the area of the former ethmoidal cells (Figure 3). No fat was removed. Bleeding or CSF leak were excluded.

**RESULTS**

One-wall endoscopic decompression has minimal complications, it does not need any nasal package and it has immediate cosmetic results. It is difficult to approximate the equivalence in quantity of the fat released from both orbits and if there is significant difference between the left and the right orbit, transient diplopia may occur (Figure 4).
In our case, 24-48 hours after surgery the diplopia diminished and the visual field returned to normal because of the eye plasticity and rearrangement of the orbital fat. The same surgical technique was applied on both orbits without any nasal package. Follow-up was made at one month, three months, six months and one year. The visual acuity and diplopia returned to normal. The patient did not require any other surgery after one year.

DISCUSSIONS

There are studies which report endoscopic approaches with an average of 1 to 8 mm reduction of proptosis with an endoscopic decompression of the medial wall, medial one-and-a-half wall, three wall, orbital apex. This happens when there is no improvement from immunosuppressive therapy and radiotherapy, and when patients have an increased risk of dysthyroid optic neuropathy. It is necessary to assess and measure the degree of orbital content decompression into the sinuses using the CT scans.

Endoscopic orbital decompression performed in patients with severe thyroid eye disease is not reported to be associated with any significant decrement in long-term sinonasal-specific quality of life. Some studies claim to have multiple operations for secondary corrections on the same patients at the same time; therefore, follow-up is of utmost importance to achieve optimal results.

One aspect to be mentioned to the patients is that after surgery they are prone to the activation of other inflammatory or autoimmune diseases. This is why perioperative intravenous methylprednisolone is taken into consideration as well as close monitoring in the early postoperative period.
CONCLUSIONS

Orbital decompression in GO can provide eyeball and vision functionality in the context of a pathology, but also the aesthetic appearance; it implies a small cost of surgical intervention with short hospital stay, ranging between 24-48 hours. Endoscopic medial wall decompression improves the visual outcomes, the visual field as well as it reduces exophthalmos. Identification of risk factors for severe outcomes and early detection of ophthalmopathies are critical. CT scan and MRI imaging proved to be effective means in data acquisition, allowing exact proptosis measurement although the bony orbit has changed.

Conflict of interest: The authors have no conflict of interest.

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REFERENCES