Pulsatile Proptosis due to Intraorbital Meningocele

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We present a case of a 79-year-old man with a non-symptomatic pulsatile proptosis of the left eye. Magnetic resonance imaging revealed a meningocele into the left orbit due to an osseous defect in the orbital roof.

Keywords: proptosis, orbital roof fracture, meningocele, pulsations, MRI imaging

INTRODUCTION

Basal encephalo- or meningoceles are rare, approximately 1.5% of all cases, and intraorbital encephalo- or meningoceles are even more rare. The most common causes are trauma, congenital skull malformations, and tumors (1). We present a patient with pulsatile exophthalmos due to an intraorbital meningocele.

DISCUSSION

The differential diagnosis of pulsatile proptosis includes orbital roof fractures, encephalo- or meningoceles, neurosurgical procedures (1–3), neurofibromatosis type 1, and vascular malformations such as carotid-cavernous fistula and arteriovenous malformations (4, 5). Even in orbital roof fractures, pulsatile proptosis is rare (2, 3). Our patient had only a meningocele into the left orbital due to a bony defect of the orbital roof, but no history of any of the other options mentioned above. Pulsation of the brain blood vessels passed on to the CSF explains the synchrony of the eyeball...
pulsation to the arterial pulse. We hypothesize that he has had head injury in early childhood leading to an orbital roof fracture and posttraumatic meningocele or a congenital skull base defect. In the literature, surgery is recommended especially for late onset traumatic encephaloceles with improvement of the preoperative ocular symptoms in all patients (2, 3). However, our patient declined surgery due to the fact that he had no symptoms and only signs.

ETHICS STATEMENT

This is a case report. The patient approved publication.

AUTHOR CONTRIBUTIONS

AR wrote the clinical information of the patient. All authors participated in the description of the images, the introduction, discussion, and abstract.

SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at http://journal.frontiersin.org/article/10.3389/fneur.2017.00290/full#supplementary-material.

VIDEO S1 | Pulsatile proptosis of the left eye.
REFERENCES

Conflict of Interest Statement: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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