Orbital Cellulitis with Subperiosteal Abscess (with Video)

Juan N. Lessing, MD, FACP[1] *and Reza Manesh, MD*[2]

[1]Division of Hospital Medicine, Department of Medicine, University of Colorado School of Medicine, Aurora, CO, USA; [2]Department of Medicine, Johns Hopkins University, Baltimore, MD, USA.

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A 79-year-old woman presented with two days of retro-orbital left eye pain and binocular diplopia. Exam revealed left eye erythema, proptosis, and extra-ocular movement deficits (Fig. 1a and see video in supplmentary material). Orbital CT showed a subperiosteal abscess compressing superior-rectus and superior-oblique muscles, and opacification of bilateral sinuses (Fig. 1b, c). She received intravenous clindamycin, vancomycin, and ceftriaxone and underwent orbitotomy and endoscopic sinus surgery. Immediately after surgery, she had resolution of ocular symptoms except mild supraduction limitations at extremes of gaze (see video in supplmentary material). She was discharged with oral clindamycin and ophthalmology follow-up.

Orbital cellulitis is infection of the contents of the orbit. Distinguishing orbital from preseptal cellulitis is critical as orbital cellulitis can threaten vision and life. Orbital cellulitis should be suspected if proptosis, diplopia, pain with eye movement, or ophthalmoplegia are present.[1–3] Direct extension from sinus infection is the most common source of orbital cellulitis and subperiosteal abscess.[1, 2, 4] For both conditions, orbital imaging is necessary for definitive diagnosis. In adults with orbital cellulitis and/or abscess, polymicrobial infection is the rule, usually including anaerobes.[4] Compared with young children where antibiotics alone may suffice, in adults surgical drainage of abscesses is usually necessary.[4–6]

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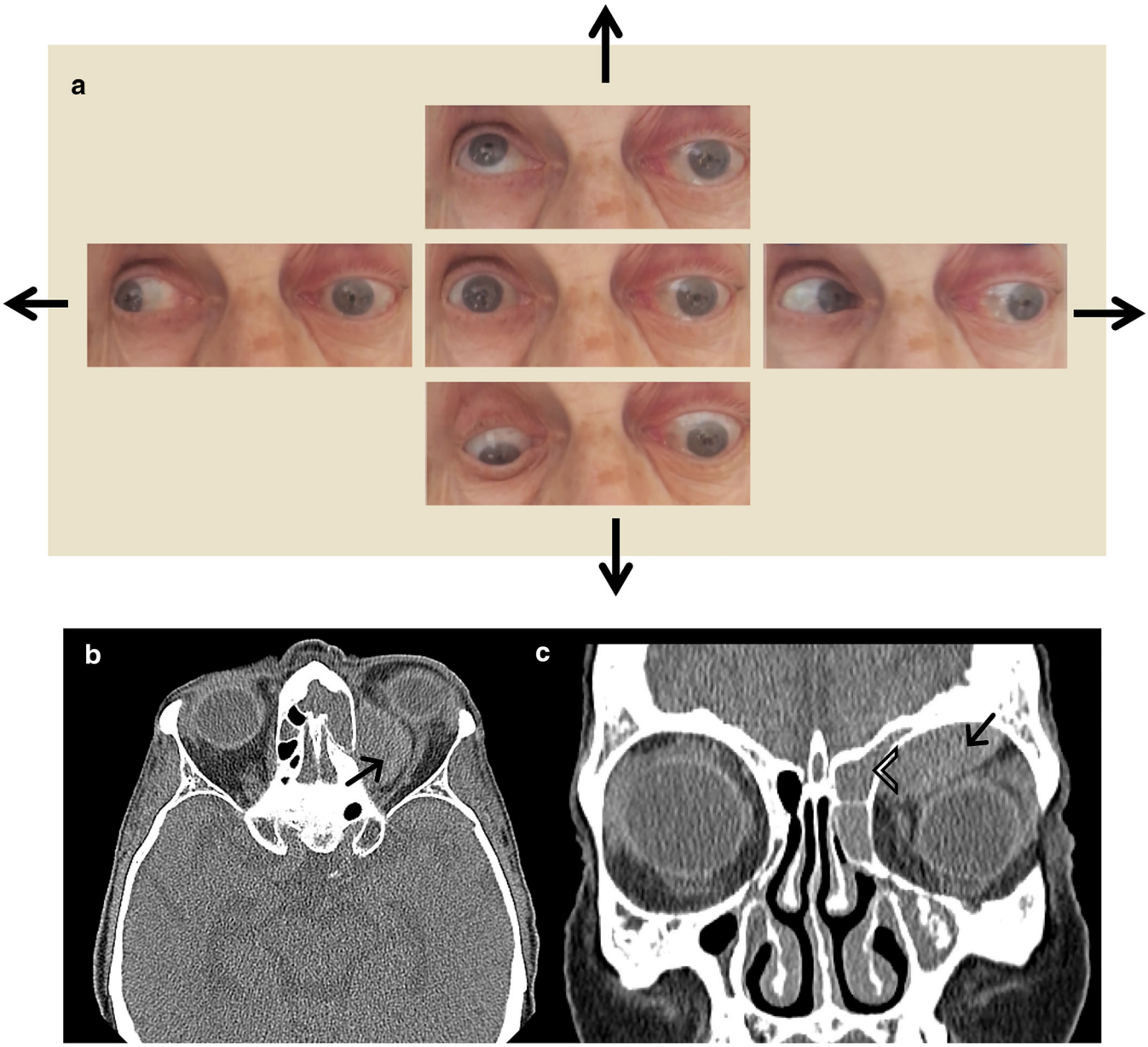

Figure 1 Photographs of ocular movement deficits of the left eye with various eye movements—directions of attempted gaze shown by closest arrow to images (panel a). CT of the orbit without contrast, seen in transverse (panel b) and coronal plane (panel c). Note left eye lenticular 2.8 × 1.2 × 2.9 cm soft-tissue mass (arrow), consistent with a subperiosteal abscess, compressing the superior-rectus and superior-oblique muscles, and complete opacification of numerous sinuses including the left ethmoid sinus (arrowhead).

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Corresponding Author: *Juan N. Lessing, MD, FACP; Division of Hospital Medicine, Department of Medicine University of Colorado School of Medicine, Aurora, CO, USA (e-mail: juan.lessing@ucdenver.edu).*

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