“Eye Can See Clearly Now”: Utilizing Clay Models to Demystify Orbital Cellulitis to Enhance Resident and Medical Student Education

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PURPOSE

Pathologies of the orbits, including infectious etiologies, present a challenge for resident physicians and medical students to understand. Cellulitis of the eye, for example, particularly preseptal and orbital cellulitis, poses significant diagnostic challenges for radiologists due to its overlapping clinical presentations and potential for serious complications.

Prior research has shown clay models to be useful tools in helping residents and medical students better understand gross anatomy. We explore the use of clay models to enhance radiology residents' and medical student’s understanding of the anatomy of the orbit and the imaging characteristics of cellulitis.

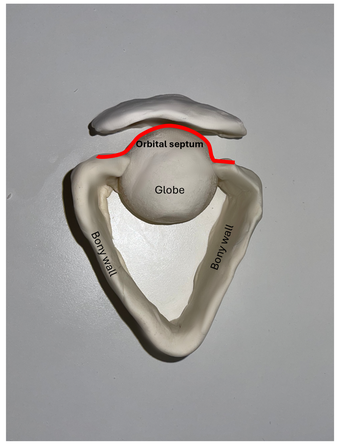
BACKGROUND

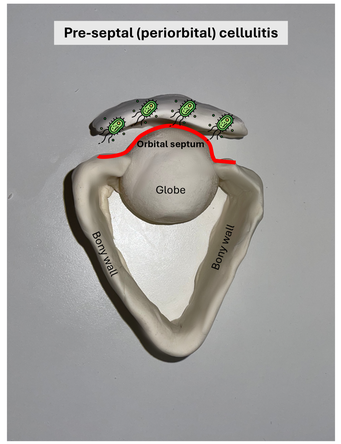
Preseptal Cellulitis and orbital cellulitis are infections of the tissues around the eye, but they involve different anatomical areas. Preseptal cellulitis is an infection anterior to the orbital septum. Orbital cellulitis is an infection posterior to the orbital septum. Preseptal cellulitis involves tissue separating the eyelids from the orbit, while orbital cellulitis involves deeper structures of the orbit.

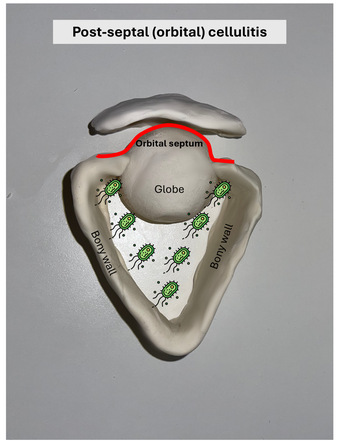
METHOD

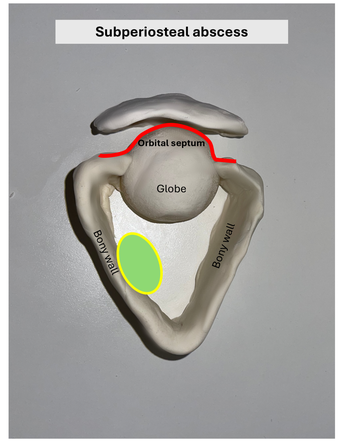
Clay models serve as a low cost, effective way to demonstrate three dimensional anatomy of the orbit. We developed clay models depicting the anatomical structures of the orbit and surrounding tissues, emphasizing the specific areas affected by preseptal and orbital cellulitis. Radiology residents and medical students can refer to these models alongside cross sectional imaging studies (CT and MRI) to better understand the different anatomical and pathological changes associated with orbital and preseptal cellulitis of the orbit.

RESULTS









The incorporation of clay models can significantly improve participants' comprehension of the relevant anatomy and the typical imaging findings associated with cellulitis. Additionally, the tactile and visual elements of the clay models can help facilitate a clearer grasp of complex anatomical relationships that are not easily appreciable from two dimensional representations. These clay models can serve as an impotant adjunct tool for enhancing medical education for both resident physicians and medical students.

CONCLUSION

Clay models serve as an effective educational tool for radiology residents studying cellulitis of the orbit and surrounding soft tissues.. By enhancing understanding of orbital anatomy and its relevance to imaging, this hands-on approach improves diagnostic skills and prepares residents for real-world clinical scenarios. Further studies are needed to evaluate the long-term impact of this teaching method on diagnostic accuracy and patient outcomes in the field of radiology.

REFERENCES

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