Upper Lid Transconjunctival En-bloc Excision of Orbital Rhabdomyosarcoma

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INTRODUCTION & OBJECTIVES

- Describe surgical technique and essential anatomy for upper-lid transconjunctival approach
- Review literature to examine history of this approach to the orbital vault
- Describe the utility of the upper-lid transconjunctival approach

SETTING, POPULATION & STUDY DESIGN

- Tertiary Care Center
- Single Patient Case Report

Case Report

- 8 year-old with left upper lid mass (Figure 1a)
- Mild hypoglobus & impaired upward gaze with no diplopia (Figure 1b)
- No change in visual acuity
- Family suspected history of trauma
- MRI showed enhancing lesion above globe (Figure 2a&b)
- DDx: Lipoma, Psuedotumor, Cyst, Rhabdomyosarcoma, Lymphoma, Adenocarcinoma

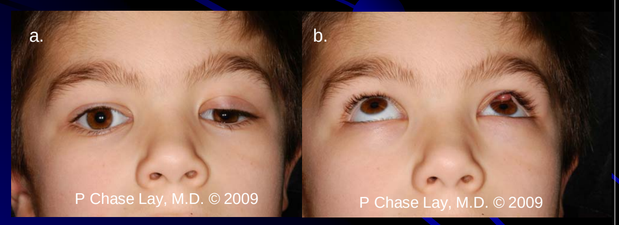

Figure 1 a&b

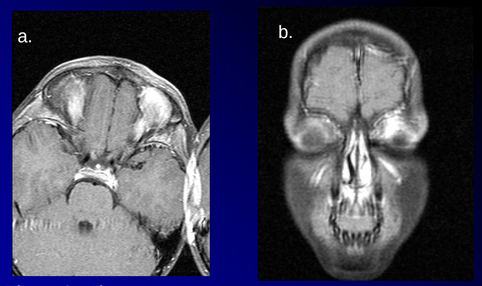

Figure 2 a&b

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DESCRIPTION OF PROCEDURE

- Under general anesthesia the globe, mass, and lid were assessed (Figure 3a&b)
- A number of possible options were considered; transcaruncular, transblepharoplasty, and transconjunctival. Ultimately, despite the tumors apparent posterior extension, the decision was made to approach transconjunctival
- It was felt that a transblepharoplasty approach would needlessly violate the levator and a transcaruncular route would not provide needed exposure
- Without injecting lidocaine with epinephrine, Wescott scissors were used to incise through the conjunctiva on the tumors superior aspect but also superior to the upper margin of the everted tarsus (Figure 3c&d)
- A conjunctival-Müller's flap was raised off the tumor and reflected inferiorly
- As the mass was reflected inferiorly the deep aspect of the levator aponeurosis (white band) could be clearly seen and was not traumatized (Figure e&f)
- Continued blunt dissection with both the Wescott scissors and cotton-tipped applicators in a plane deep to the capsule of the tumor freed the anterior 2/3 of the mass leaving a lobulated, somewhat infiltrative posterior portion (Figure g – i)
- At this point the mass was reflected superiorly to continue dissection in a manner that would, 1) avoid violating the deep surface of the levator, and 2) allow for control of small arteriole perforators that could otherwise retract into the orbit causing a hematoma (Figure h)
- The mass had a tapered tail and was removed en-bloc (Figure i)
- The conjunctival-Müller's flap closed easily with a running 6-0 fast-absorbing plain gut with buried knots (Figure j – l)

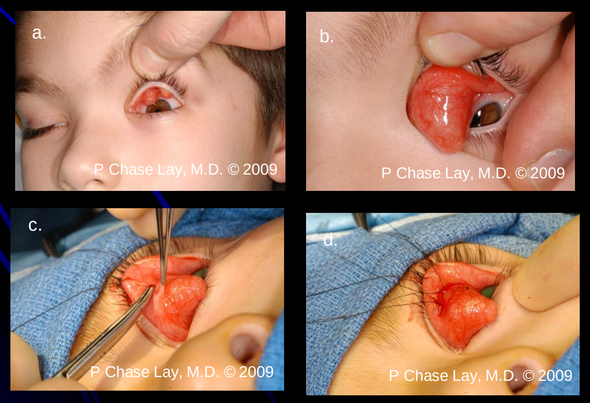

Figure 3 a - d

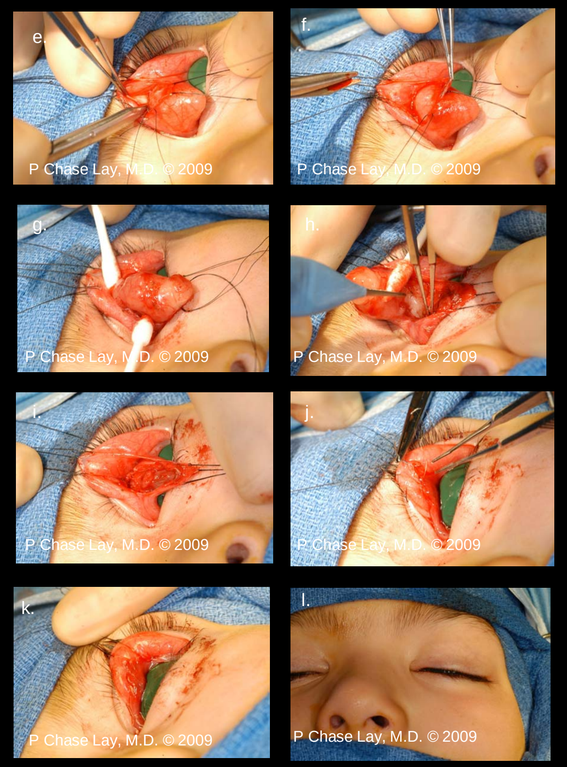

Figure 3 e - l

The gross specimen.

RESULTS

- Dx: Rhabomyosarcoma
- The patient was treated uneventfully
- No post-op visual changes
- Hypoglobus and restricted upward gaze resolved
- Completed round of 32 Gy XRT to left orbital cone

DISSCUSION

This particular approach to the superior orbital vault is not well described. To our knowledge there is no existing report of an upper lid transconjunctival-Müller's muscle approach to a tumor of the superior orbital vault. The anatomy that made this procedure practical was, first, the potential space between the deep aspect of the levator and the Müller's muscle (Figure 5a arrow). It would appear that the tumor had dissected in this plane and was situated deep to the levator but medial to the insertion of the superior oblique (Figure 5b arrow).

The orbital and periorbital anatomy can be quite a challenge to describe, dissect, and reconstruct. Thorough understanding of its form and function can open a multitude of surgical options for otolaryngologists allowing for more effective treatment of orbital and periorbital disease.

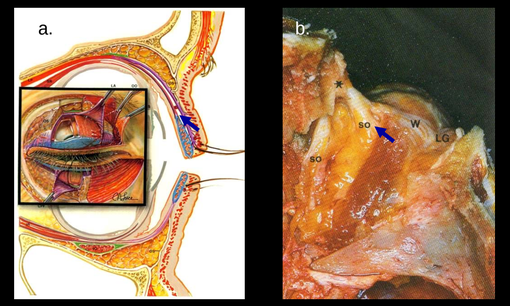

Figure 5 a&b

Photos used with consent from Dr. Barry M. Zide. Illustrations by Craig Luce. From Surgical Anatomy of the Orbit. 1st edition. 1985

CONCLUSION

The upper lid transconjunctival technique for the biopsy or removal of a mass in the orbital vault offers a minimally invasive approach in selected cases.

Suggested References

1. Oculoplastic Surgery. Charles E. Iliff et al. Saunders 1979
2. Cosmetic Oculoplastic Surgery, 3rd Edition. Allen M. Putterman. Saunders 1999.
3. Surgical Anatomy of the Orbit. Barry M. Zide & Glenn W. Jelks. Raven Press 1985.
4. Manual of Oculoplastic Surgery, 3rd Edition. Mark R. Levine. Butterworth Heinemann 2003.
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