American Board of Ophthalmology®

ADVANCING EXCELLENCE IN EYE CARE

Sample Questions

For the Quarterly Questions® Activity

Remember: On the actual Quarterly Questions activity, you will have 60 seconds to select an answer before time runs out and the correct answer is shown to you.

CORNEA QUESTION

A 57-year-old woman is referred by her local optometrist for cataract surgery. Examination reveals peripheral whitish elevations on the cornea with extension toward the visual axis. Which of the following tests is most appropriate to determine the next step in management?

A. Anterior segment optical coherence tomography

B. Optical biometry

C. Specular microscopy

D. Topography

Correct Answer: D. Topography

KEY POINT

Corneal topography can help quantitate the effect of corneal lesions on the visual pathway. Cataract surgery should be undertaken when other variables contributing to visual complaints have been addressed. Salzman nodules are relatively common lesions seen in women over age 40. Some of these lesions induce considerable irregular astigmatism that should be addressed prior to considering cataract surgery.

Corneal topography or tomography can lend valuable insight into the degree and pattern of irregular astigmatism and help guide treatment decisions. Many times, removing the nodules is sufficient to restore visual function and delay cataract surgery.

REFERENCES

Goerlitz-Jessen MF, Gupta PK, Kim T. Impact of epithelial basement membrane dystrophy and Salzmann nodular degeneration on biometry measurements. *J Cataract Refract Surg*. 2019 Aug;45(8):1119-1123. doi: http://dx.doi.org/10.1016/j.jcrs.2019.03.014. Epub 2019 Jun 4. PMID: 31174985.

He X, Huang AS, Jeng BH. Optimizing the ocular surface prior to cataract surgery. *Curr Opin Ophthalmol*. 2022 Jan 1;33(1):9-14. doi: http://dx.doi.org/10.1097/ICU.0000000000000814. PMID: 34698670.

GLAUCOMA QUESTION

Prior to performing an incisional surgery for glaucoma, which of the following anatomical considerations is most important in choosing between trabeculectomy versus tube shunt implantation?

A. Axial length

B. Central corneal scar

C. Mobility of conjunctiva

D. Thinner corneal pachymetry

Correct Answer: C. Mobility of conjunctiva

KEY POINT

Non-mobile conjunctiva is suggestive of scarring, which can lead to greater challenges with surgical dissection and increased difficulty in closing conjunctiva with a trabeculectomy. Trabeculectomy would be feasible in an eye with mobile conjunctiva but would have a reduced likelihood of success in an eye with non-mobile conjunctiva. Aqueous shunt implantation is generally preferred in this clinical setting.

A central corneal scar would not necessarily influence the choice of trabeculectomy versus tube shunt implantation. Thinner corneal pachymetry may impact the accuracy of applanation tonometry measurements but would not affect the choice of trabeculectomy versus tube shunt implantation. Eyes with extremely short or long axial lengths are at increased risk for choroidal effusions or hypotony maculopathy, respectively. However, these surgical complications may occur following trabeculectomy or tube shunt implantation, and axial length does not usually guide the selection of a glaucoma procedure.

REFERENCES

American Academy of Ophthalmology Basic Clinical and Science Course, Section 10, Glaucoma, p. 215, 2018-19.

Lawrence SD, Netland PA. Inadequate conjunctival coverage. In: Feldman RM, Bell NP, eds. Complications of Glaucoma Surgery. New York, NY: Oxford University Press. 2013; pp. 258-264.

PEDIATRICS QUESTION

A 2-year-old child with bilateral retinoblastoma tests positive for blood RB1 (germline) mutation. The child's 3-month-old sibling had a normal ophthalmic examination and tested negative for the RB1 mutation. What is the post-test risk of the sibling for development of retinoblastoma?

A. .007 %

B. 0.1 %

C. 1.3 %

D. 2.5 %

Correct Answer: A. .007%

KEY POINT

Achieving optimal visual and survival outcomes in retinoblastoma depends upon early detection. High-risk children with a positive family history for retinoblastoma should undergo systematic screening for early disease detection. Genetic testing for RB1 mutations can eliminate or modify the need for extensive ophthalmic screening in siblings and other relatives. Genetic testing and counseling for retinoblastoma is a complex issue and should be provided by genetics specialists skilled in the treatment of retinoblastoma.

If a germline RB1 mutation is identified in a sibling, the sibling is at high risk for the development of retinoblastoma and will require monthly screening until 1 year of age, with continued frequent screening until 7 years of age.

If a relative tests negative for the RB gene mutation, their risk for the development of retinoblastoma is equal to the population at-large risk (.007 %, 1 in 15,000 live births). Therefore, if an RB1 mutation has been identified in a child and their sibling tests negative for the RB1 mutation, the sibling does not require further ophthalmic screening for retinoblastoma. It is recommended that the sibling should continue to have yearly ophthalmic examinations.

REFERENCES

American Academy of Ophthalmology Basic Clinical and Science Course, Section 6, Pediatric Ophthalmology and Strabismus, p. 351-58, 2018-19.

Skalet AH, Gombos DS, Gallie BL, Kim JW, Shields CL, Marr BP, Plon SE, Chévez-Barrios P. Screening Children at Risk for Retinoblastoma: Consensus Report from the American Association of Ophthalmic Oncologists and Pathologists. Ophthalmology. 2018 Mar;125(3):453-458. doi: https://doi.org/10.1016/j.ophtha.2017.09.001. Epub 2017 Oct 18. PMID: 29056300.

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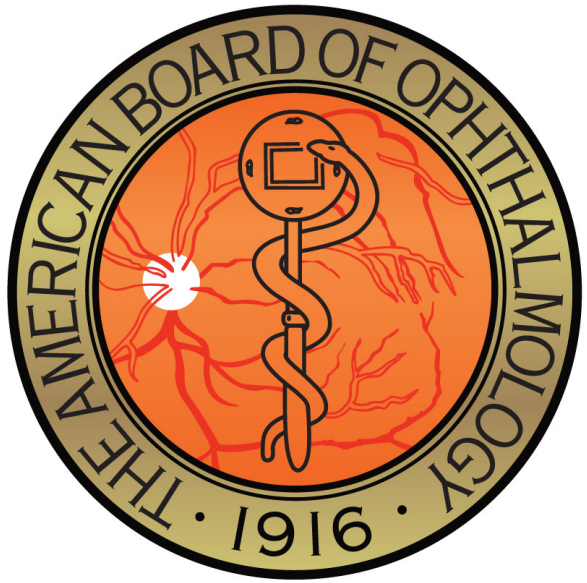

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