

SHORT ESSAY QUESTIONS (Paper 1 – 10 questions; Paper 1 – 5 questions)

AUGUST 2003

Paper 1 – Questions 1-10

QUESTION 1

The following information has been extracted from a journal article:

Purpose: To study the long term results of high risk trabeculectomies with mitomycin C.

Design: A retrospective non-comparative case series.

Intervention/Participants:

Seventynine eyes in 76 patients were identified from two hospitals in our city. All had had trabeculectomies with mitomycin C between 1983 and 1986 and were available for followup of a minimum of one year. All patients had previously failed glaucoma surgery, cataract surgery or other surgery making them high risk for failure. Followup ranged from 1.0 to 15.4 years (mean 6.1 years, standard deviation 4.8 years).

Main Outcome Measures:

Successful control of intraocular pressure was defined as IOP less than 21 mmHg or a reduction of 33% if pre-operative pressure was less than 21 mmHg. Survival analysis was performed using a Kaplan-Meier curve.

Results: The probability of successful control of IOP in this group of patients with high risk trabeculectomies was 59% (95% confidence intervals 50-72%) at 5years, 46% (95% confidence intervals 32-56%) at 10 years and 43% (95% confidence intervals 29-53%) at 15 years.

- (a): What is meant by the term "bias" in epidemiology?
- (b): What factors could cause bias in this study?
- (c): What is meant by the term "Kaplan-Meier survival analysis" in this study? Illustrate your answer by drawing the shape of a Kaplan-Meier graph and describe the components.
- (d): What is meant by the term "95% confidence interval" in the above study?

QUESTION 2

A 35 year old male requests refractive surgery to correct his myopia of 10.0 diopters right and left. He has become intolerant of contact lenses and cannot wear thick spectacles in his job. His best corrected vision is 6/6 right and left. There is no significant past ocular history and his eyes are healthy.

What are the refractive surgical options and the relative merits of each procedure for this patient? Also mention any special preoperative assessment particular to each procedure.

QUESTION 3

An 80 year old lady presents to you wearing a soft contact lens in her aphakic left eye. She had bilateral cataract surgery two years ago. The right eye is pseudophakic with a posterior chamber IOL.

She sees 6/9 with the right eye and 6/18 with her aphakic left eye. She has no posterior capsule in her left eye. The pupil is round and there are some guttata in her left cornea. She asks you if you would insert an IOL into the left eye.

- (a) What would you look for on your examination of this lady?
- (b) What are the advantages and disadvantages of a sutured posterior chamber IOL compared with an anterior chamber IOL?
- (c) What would you tell the patient before you do any surgery on the left eye?

QUESTION 4

Describe with the aid of diagrams your preferred method of suturing a posterior chamber intraocular lens to the sclera and your choice of IOL.

QUESTION 5

Outline the indications and complications of orbital decompression for thyroid-related orbitopathy.

QUESTION 6

Discuss the methods of assessment of success or failure of a dacryocystorhinostomy procedure.

QUESTION 7

A 60 year old female complains of intermittent episodes of ocular redness, swelling and irritation for 9 months. On examination, she is noted to have shortening of both inferior conjunctival fornices.

- List your differential diagnoses.
- What is the most likely diagnosis?
- What would you look for in your history and examination and investigations of this patient which would confirm your diagnosis in (b) and will exclude the differentials listed in (a)? Do not discuss treatment.

QUESTION 8

- List the symptoms and signs which differentiate macular from optic nerve dysfunction. Exclude fundoscopic and angiographic signs.
- List the macular and/or optic nerve signs from toxicity of the following compounds:
(i) hydroxychloroquine, (ii) ethambutol, (iii) tamoxifen,
(iv) thioridazine, (v) canthaxanthine, (vi) intravitreal amikacin.

QUESTION 9

A 24 year old welder presents with corneal flash burns. His past history includes multiple visits to the Casualty Department for flash burns and corneal foreign bodies.

- You find an old full thickness corneal wound. What diagnosis should you exclude in this patient?
- You find pigment deposits on a cataractous lens. What does this indicate?
- What other signs would you look for to confirm your diagnosis in (b)?
- What investigations would you do in this patient and what would you expect to find with each?
- Your investigations in (d) show an abnormality in the posterior pole to confirm your diagnosis in (a). You advise the patient he needs an intraocular operation on this eye to prevent progression of the diagnosis in (b). What is this operation? Explain what you would tell the patient about the technique of this operation.
- What you would tell the patient are the potential causes of reduced vision following the surgery in (e)?
- How would you counsel this patient about future work activities?

QUESTION 10

A 70 year old woman presents with a history of seeing flashing lights.

- What is your differential diagnosis?
- Describe in detail what other symptoms and ocular signs you would look for to confirm each of these diagnoses in your answer (a).