Protocols In Eye Conditions

Protocol Booklet

Bianca Maria Stivala
This booklet was compiled by Bianca Maria Stivala as part of an undergraduate project entitled "Protocols in Eye Conditions" carried out for the partial fulfilment of the requirements of the course leading to the Degree of Bachelor of Pharmacy (Honours).

The study was carried out under the supervision of Professor Lilian M. Azzopardi, Head of Department, Department of Pharmacy, University of Malta.

The validation panel:
- Dr. Joseph Farrugia, M.D., M.M.C.F.D.
- Mr. Demis Fsadni, B.Pharm. (Hons.)
- Dr. Marco Grech, M.D., Cert. Diab. (ICGP), M.M.C.F.D.
- Dr. Jan Janula, M.D., Ph.D., S.D.S.Oph. (Prague)
- Mr. Franco Mercieca, M.D., F.R.C.Ophth. (UK)
- Mr. Mark Mercieca, B.Pharm. (Hons.)

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Bianca Maria Stivala
Department of Pharmacy
Faculty of Medicine and Surgery
University of Malta
Msida, Malta

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Bianca Maria Stivala

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Pharmacists are commonly consulted about the management of signs and symptoms of common eye conditions. Pharmacists are in a position to identify signs and symptoms that require immediate referral. They are in a position to support patients in self-management of dryness, conjunctivitis and external segment and eyelid conditions. In the management of eye conditions patients need to be educated about the proper use of ophthalmic medications.

The protocols presented in this handbook have been developed by Bianca Maria Stivala, a pharmacy student as part of her project. This project is part of a research study being undertaken at the Department of Pharmacy with the aim of developing and disseminating protocols for the local scenario that are evidence-based.

Professor Lilian M.Azzopardi
Head, Department of Pharmacy
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HOW TO USE THIS BOOKLET

This booklet contains three flow chart protocols whose aim is to guide pharmacists in diagnosing and managing ocular conditions and recognising conditions which warrant referral. The protocols are guidelines compiled using evidence-based medicine, which when coupled with the pharmacist’s experience provide the best pharmaceutical care to the patient.

This booklet is to be used with a companion explanatory text handbook which contains explanations and references for each protocol step. The text which corresponds with treatment and management steps provides more detail about pharmacological and non-pharmacological patient advice, which is of practical significance.

The handbook is available online as a downloadable and printable A4 size document entitled “Protocols in Eye Conditions Handbook” at URL http://www.um.edu.mt/ms/pharmacy/research/protocols
Known information about the patient

Pharmacist is required to perform an action

Pharmacist is required to make a decision which leads to different paths

Directs pharmacist to another step on another page

Pharmacist is required to perform an action and exit the protocol

Step number label
Patient presents with inflammation of the eyelid and/or eyelid margin

2  Pharmacist greets patient

3  Is pharmacist familiar with patient? No

4  Pharmacist asks questions to know identity of patient. Go to box 5.

5  Does patient wear contact lenses? Yes

6  Refer

7  Is there any lump or localised swelling present? Yes

Go to box 8

No

Go to box 25
From box 7

8

Is there any redness on the lump?

Yes

Patient reports tenderness to touch

10

11

Is the lump painful?

No

Swelling is tender but not painful

12

13

Check if swelling points towards lid margin or towards conjunctiva

Go to box 14

No

There is no redness on the lump

Go to box 12

Yes

Go to box 15
External segment & eyelid conditions

From box 13

14. Does swelling point towards lid margin? 
   Yes
   19. Does the redness have a white/yellowish core? 
       Yes
       20. External hordeolum (stye)

   No
   15. Chalazion (meibomian cyst)

21. Treatment
   Warm compresses applied 3-4 times daily for 10-15 minutes.
   Refer to general practitioner as antibiotic therapy is required.
Did patient ever manifest these symptoms before?

Yes → Refer

No → Treatment

Warm compresses applied twice daily for 3-5 minutes. The lesion should be massaged in the direction of the eyelashes with clean fingers or cotton tips.

Refer to general practitioner if swelling does not subside or becomes red.
Are there greasy scales present on the eyelid?

From box 7

25 Does patient have seborrhoeic dermatitis of scalp and/or eyebrows?

No

30 Are there dry scales present on the eyelid margin?

No

31 Are there greasy scales also present?

No

Mixed infection blepharitis

Yes

Yes

26 Are there greasy scales present on the eyelid?

Yes

Seborrhoeic blepharitis

No

Go to box 26

Yes

Staphylococcal blepharitis

Treatment

- Warm compresses applied for several minutes.
- Eyelid hygiene once daily or as often as required. If effective may be required on a long-term basis.
- Refer to general practitioner for appropriate antibiotic therapy.
Are there greasy scales present on the eyelid?

No

Meibomian gland dysfunction (posterior blepharitis)

TREATMENT

- Warm compresses applied for several minutes.
- Eyelid hygiene once daily or as often as required. If effective may be required on a long-term basis.
- Keep scalp, eyebrows, and other areas affected by seborrhoeic dermatitis clean by means of soap and water shampoo.

Refer to general practitioner for appropriate antibiotic therapy.

Staphylococcal blepharitis

27

Seborrhoeic blepharitis

29

32

34
CONJUNCTIVITIS

1. Patient presents with a red eye

2. Pharmacist greets patient

3. Is pharmacist familiar with the patient? No

4. Pharmacist asks questions to know identity of patient. Go to box 5.

5. Are the eyes painful? No

6. Refer

7. Does the patient wear contact lenses? Yes

8. Refer

9. Go to box 9
Are symptoms unilateral?  

Have symptoms been unilateral for more than 2 days?  

Were symptoms initially unilateral?  

Infectious conjunctivitis  

Go to box 22
**CONJUNCTIVITIS**

From box 15

17

Symptoms were always bilateral

18

Are the eyes itchy?

No → Refer

Yes

20

Allergic conjunctivitis

19

**Treatment**

Non-pharmacological advice:
- Minimise exposure to allergens as much as possible
- Wash clothes and fabric frequently
- Shower/bathe before bedtime
- Cool compresses to alleviate itching and remove any dry crusts

Pharmacological treatment:
- Topical antihistamine/vasoconstrictor agent
- Topical histamine H1-receptor antagonist (levocabastine, emedastine)
- Artificial tears to dilute allergens (carboxymethyl cellulose, hydroxypropyl methylcellulose)
- For recurrent or persistent cases: mast cell stabilisers (sodium cromoglicate)
From box 16

Is there any discharge present?

Yes

Is the discharge purulent/mucopurulent?

Yes

Bacterial conjunctivitis

Go to box 29

No

Refer

No

Is the discharge serous (watery)?

No

Is the discharge purulent/mucopurulent?

Yes

Adenoviral conjunctivitis

From box 16

Treatment

- Supportive treatment with cool compresses, artificial tears and/or topical antihistamines.
- Give advice on good hygiene to prevent spread of infection (frequent hand washing, avoid sharing of towels and facecloths with other people) to other people and/or the other eye in cases where infection is still unilateral.
- Advise patient that infection remains contagious for up to 2 weeks after the second eye becomes infected.

Refer to specialist if symptoms do not resolve within 2 weeks.
C O N J U N C T I V I T I S

From box 28

29 Is there a palpable preauricular node?

Yes

Chlamydial inclusion conjunctivitis

No

31 Is there associated blepharitis?

No

Acute bacterial conjunctivitis

Refer

Yes

33 Chronic bacterial conjunctivitis

Treatment

Warm compresses and eyelid hygiene to remove blepharitis crusts.

Refer to specialist for antibiotic treatment.
1. Patient presents with complaint of foreign body sensation

2. Pharmacist greets patient

3. Is pharmacist familiar with patient?
   - Yes: Go to box 5.
   - No: Pharmacist asks questions to know identity of patient. Go to box 5.

4. Go to box 5.

5. Does patient wear contact lenses?
   - Yes: Refer
   - No: Go to box 9

6. Does the eye appear red?
   - Yes: See conjunctivitis protocol
   - No: Go to box 9
**DRY EYE DISEASE**

**From box 7**

9. Does patient manifest symptoms of posterior blepharitis?

- **Yes**
  - Management
    - Eyelid hygiene and warm compresses applied at least once daily.
    - Artificial tears applied 3-4 times daily or as required.
    - Increase intake of foods containing omega-3 fatty acids and vitamin A; reduce alcohol ingestion.
  - Refer to ophthalmologist if symptoms do not improve after one week.

- **No**

11. Is the patient exposed to cigarette smoke?

- **Yes**
  - Dry eye due to exposure to cigarette smoke

- **No**

14. Is the patient using any topical products?

- **Yes**
  - Dry eye due to use of topical products

- **No**

Go to box 17
Dry eye disease management:
- Eyelid hygiene and warm compresses applied at least once daily.
- Artificial tears applied 3-4 times daily or as required.
- Increase intake of foods containing omega-3 fatty acids and vitamin A; reduce alcohol ingestion.
-Refer to ophthalmologist if symptoms do not improve after one week.

Dry eye due to exposure to cigarette smoke management:
- Reduce exposure to cigarette smoke.
- Increase intake of foods containing omega-3 fatty acids and vitamin A; reduce alcohol ingestion.
- Artificial tears applied 3-4 times daily or as required.

Management
- If patient is taking non-prescription medications:
  - Advise patient to stop taking medication or suggest alternatives without preservatives.
  - Dispense artificial tears to be applied 3-4 times daily or as required.
  - Advise patient to wait 15 minutes before applying second product.

If patient is taking prescription medications, refer to ophthalmologist for re-evaluation of treatment.
Dry Eye Disease

From box 14

17. Is the patient female?
   - Yes: 18. Is the patient taking oestrogen only HRT?
     - No: Go to box 25
   - No: 20. Is patient taking any systemic medications?
     - No: 21. Does the patient have symptoms of dry mouth?
       - No: Go to box 25
       - Yes: Sjögren’s syndrome Refer to rheumatologist
Is the patient taking oestrogen only HRT?

Dry eye as a side-effect of systemic medication

Management

If patient is taking non-prescription medications:
- Advise patient to stop taking medications.
- Dispense artificial tears to be applied 3-4 times daily or as required.
- If symptoms do not improve refer to ophthalmologist.

If patient is taking medications with specialist prescription, refer patient to specialist for re-evaluation of treatment.
Does the patient spend a long time in front of a screen or reading?

Yes

Episodic dry eye due to extended visual tasking

No

Refer

Management

- Environmental modifications: control humidity, take frequent breaks when using computer, blink frequently.
- Dietary modifications: increase intake of foods containing omega-3 fatty acids and vitamin A; reduce alcohol ingestion.
- Pharmacotherapy: artificial tears 3-4 times daily or as required.

Refer to ophthalmologist if symptoms do not improve or if patient reports frequent use of artificial tears.


REFERENCES


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