

ELECTIVE (SSC5c) REPORT (1200 words)

A report that addresses the above four objectives should be written below. Your Elective supervisor will assess this.

One of the most common symptoms that children living in East London experience is epiphora, or watering of the eyes. This can be caused either an overproduction of tears or ineffective drainage. There are various causes of epiphora but the most common cause that I have seen in East London is allergic conjunctivitis. Allergic conjunctivitis isn't just the most common cause of epiphora in East London but it is also common in the rest of the UK. 20% of the population suffers from allergies and 20% of these patients will suffer from eye symptoms. In fact, 15% of all eye problems that present in general practice are due to allergic conjunctivitis [1]. As a result, it is an important disease to understand.

Allergic conjunctivitis is inflammation of the conjunctiva caused by contact with allergens. This contact causes the activation of mast cells and the release of histamine. Histamine then activates an inflammatory response and produces the symptoms of conjunctivitis. While conjunctivitis is not a serious condition the symptoms it produces can have a profound impact on a patient's life. In children the disease also affects the parents as children commonly have difficulty sleeping. Therefore, diagnosing and treating the disease is essential [2].

When assessing a patient with suspected allergic conjunctivitis a proper history should first be taken. Patients commonly present with extremely itchy red eyes, epiphora, gritty eyes and mild photophobia. Further questioning must be done to find out if the patient has come into contact with any allergens or if they have any other allergic conditions, such as hay fever or eczema [3]. Other aspects of the history should also be covered including drug allergies and medical history as this may affect the treatment that can be offered.

A proper examination must be performed in all individuals in order to rule out the differential diagnosis. This should include examination of visual acuity, a slit lamp or direct ophthalmoscope examination with fluorescence staining, checking the pupillary reaction and everting the lids to look for foreign objects. Checking the tear drainage is also a must in order to rule out lacrimal obstruction. Common signs of allergic conjunctivitis include bilaterally injected eyes with watery discharge, lid swelling and conjunctival chemosis with papillae [3].

Allergic conjunctivitis is primarily diagnosed by history and examination. The differential diagnosis of an itchy, inflamed eyes in children includes: infective conjunctivitis, blepharitis, foreign body, orbital cellulitis and ocular herpes simplex. All of these differentials have obvious signs and symptoms that can be picked up through a proper history and examination. Further investigations may be used to rule out the differential diagnosis. Conjunctival swabs can be taken to rule out infective causes of conjunctivitis. Skin prick testing and IgE testing can be done to determine the allergic trigger [3].

The management of allergic conjunctivitis can be broken down into non-pharmacological and pharmacological treatments. Non-pharmacological treatments are commenced in patients that initially present with mild symptoms. Cold compresses and lubricating eye drops can reduce symptoms and should be used as often as required. Patients should be advised to not rub their eyes as this can make symptoms worse. Allergen avoidance will also aid in symptom reduction as well as preventing reoccurrence [4].

Pharmacological therapy is usually begun when non-pharmacological therapy fails or in patients who present with moderate to severe symptoms. Mast cell stabiliser eye drops such as lodoxamide and nedocromil are commonly used as first line treatment during allergen exposure. They prevent mast cell degranulation and reduce the inflammatory mediators that are released. They tend to have a delayed onset but last longer and have fewer side effects than anti-histamines [4].

Topical anti-histamines, such as antazoline, azelastine, and emedastine, are used as second line treatment for allergic conjunctivitis. These reduce the production and effects of histamine. They may be started in conjunction with mast cell stabiliser to relieve symptoms while the mast cell stabiliser takes effect. Olopatadine hydrochloride is a combination of an anti-histamine and a mast cell stabiliser and can be used in these cases. Topical anti-histamines are not recommended to be used for longer than six weeks while the mast cell stabiliser should be used for the duration of allergen exposure. Oral anti-histamines, such as loratidine and chlorphenamine, may be used for more severe symptoms or when other allergic conditions are present, such as rhinitis. Parents should be advised that these medications could cause a child to become drowsy [4].

Topical corticosteroids or a five day course of oral steroids are saved for severe cases of allergic conjunctivitis. In these cases, there should be no doubt in the diagnosis and the child should be seen by a senior paediatric ophthalmologist. Steroids should never be given to an undiagnosed red eye or in a child with a history of ocular herpes simplex infection. The risks of steroids should be explained to the family including infection, glaucoma and cataracts [5,6].

Allergic conjunctivitis is benign condition that causes few complications. However, severe and untreated disease can lead to corneal ulceration. More commonly, allergic conjunctivitis leads to symptoms that greatly affect a patient's quality of life. Diagnosing allergic conjunctivitis only requires a thorough history and an examination. Once a diagnosis is made then patients should be advised of non-pharmacological treatments and, if needed, started on pharmacological treatments.

While ophthalmology in Canada runs very similarly to the way it runs in the UK, the medical system in Canada runs differently. The type of healthcare you receive in Canada differs from province to province unlike the National Health Service in the UK. In Canada healthcare is free at the point of delivery in a hospital; however, healthcare outside of a hospital, such as optometry visits, must be paid for. This is again different to the UK system where all forms of healthcare are covered by the NHS. Prescriptions are also not covered in Canada, patients don't just pay a dispensing fee but also pay for their own medication. This means that patients with chronic eye conditions may be paying hundreds of dollars a month for eye drops. While insurance and job plans may cover all of these costs it still leaves some patients having to pay, unlike in the UK. Oversubscription of patients is also quite common in Canada, in the UK oversubscribed patients can be seen privately to ease the burden on the NHS, however in Canada a private insured stream of healthcare does not exist. While it does have some problems, the Canadian healthcare system is still able to provide high quality of care for patients.

I came on this elective with a great interest in ophthalmology but I was still unsure whether I wanted to pursue it as a career. Through my five years at medical school I looked at multiple specialities that I was interested in including cardiology, cardiothoracic surgery, plastic surgery and orthopaedic surgery. All of these specialities still have features that greatly interest me but also aspects that push me away. A big drawback for me in all of them was the lack of certainty in diagnosis and treatment. Patient's would only be diagnosed after numerous tests and would wake up from treatment in even

more pain than they were before. In ophthalmology this is not the case. The eye is an organ that we can look straight into allowing for a diagnosis to be easily made. Treatment is usually painless and leaves most patients satisfied. I find ophthalmology to be a highly rewarding specialty and one that I am very excited to pursue.

Work Cited

- 1) Chigbu DI; The management of allergic eye diseases in primary eye care. *Cont Lens Anterior Eye*. 2009 Dec;32(6):260-72. Epub 2009 Oct 30.
- 2) Palmares J, Delgado L, Cidade M, et al; Allergic conjunctivitis: a national cross-sectional study of clinical Eur J Ophthalmol. 2010 Mar-Apr;20(2):257-64.
- 3) Lowth, Mary. "Allergic Conjunctivitis | Doctor | Patient.co.uk." Patient. N.p., 11 Feb. 2014. Web. 18 May 2015. <<http://www.patient.co.uk/doctor/allergic-conjunctivitis-pro#ref-2>>.
- 4) Azari AA, Barney NP; Conjunctivitis: a systematic review of diagnosis and treatment. *JAMA*. 2013 Oct 23;310(16):1721-9. doi: 10.1001/jama.2013.280318.
- 5) Bielory BP, Perez VL, Bielory L; Treatment of seasonal allergic conjunctivitis with ophthalmic corticosteroids: in *Curr Opin Allergy Clin Immunol*. 2010 Oct;10(5):469-77.
- 6) Origlieri C, Bielory L; Intranasal corticosteroids: do they improve ocular allergy? *Curr Allergy Asthma Rep*. 2009 Jul;9(4):304-10.