

Current Practice: Diagnosis and Treatment in Primary Healthcare

David BenEzra, MD, PhD, Professor of Ophthalmology, Hadassah University Hospital, Jerusalem, Israel.

Summary

In a primary healthcare facility, there are certain 'rules of thumb' that can be recommended for the diagnosis and treatment of conjunctivitis. The type of discharge is a crucial factor in the differential diagnosis and can also be a clue towards the management in primary care. It is important to identify whether the conjunctivitis is an isolated case or part of another disease, and if it is acute or chronic, and I would suggest taking a smear or culture sample whenever possible. When the aetiology is not clear, I would try antibiotics. If the patient is allergic, and an allergic conjunctivitis is suspected, the best management today is to use mast cell stabilisers, and combine these with conservative measures of frequent washings, and compresses. If the aetiology remains doubtful, or if there is no obvious improvement using these treatments, the patient should be re-evaluated and/or referred to an ophthalmologist or specialist eye centre. The use of corticosteroids for conjunctivitis should certainly be avoided in primary healthcare. Conjunctivitis is often self-limited and the drug-induced consequences of improper management can be far more devastating than the disease itself.

Introduction

Conjunctivitis is primarily recognised as a red eye but the conjunctival inflammation, which may be with or without discharge, also induces some discomfort, itching and tearing, leading to rubbing of the eyes. As a rule, conjunctivitis *per se* is not painful and if there is pain, this indicates involvement of the cornea. It is important to make this differential diagnosis of 'red eye' or 'red eye with discomfort' – which can denote an acute anterior uveitis, a keratitis, an acute glaucoma, or maybe an episcleritis or scleritis. Generally, if the patient is a child, it is very difficult to make a proper diagnosis and we may be tempted to try out treatments with different drugs over a long period of time; if the treatments are not

effective, complications such as membrane formation may develop. Older patients with chronic conjunctivitis treated with topical drugs for a long period of time may also end up with secondary changes and scarring of the fornices. Even when the conjunctivitis is well-treated and the eyes are no longer red, if the patient continues to complain we should look for a persistent infection. Episcleritis can be confused with angular (nasal/temporal bulbar) conjunctivitis and differential diagnosis is very important here, as the treatment is completely different. Acute seasonal conjunctivitis may be a simple disease and can be self-limited in many cases. However, vernal keratoconjunctivitis (VKC) can be very difficult to treat and it induces morbidity: these children are unable to attend school regularly and although there are treatments which are at least partially effective, they will often still be troubled by the persistence of huge 'cobblestones' under the upper lid. If treatment comes too late, the child will feel relief but may already have complications of the cornea, adversely affecting visual acuity.

Diagnosis of conjunctivitis in primary healthcare

Envisaging myself making a diagnosis in a primary healthcare centre where there is no slit-lamp, I would look for these signs: – if there is a discharge, is it watery, mucous, or mucopurulent? The redness of the eye is important, and if there is photophobia one has to suspect that there is also some involvement of the cornea. The immediate appearance of the eye can be deceptive. It may look dreadful when the child is not really so symptomatic. On the other hand, the conjunctivitis may not look so bad, yet the eye shows the formation of phlyctenules, which can induce a lot of disturbance. These are microabscesses found in the limbal area, which are often associated with blepharitis and result from an immune reaction to staphylococcal antigens. Some of these children, especially those with limbal VKC involving some lymphoid proliferation, are unable to open their eyes even in the winter and are very much disturbed. However, especially in a primary care facility, one has to be careful about the secondary

Table 1. Aetiology of conjunctivitis based on type of discharge

Discharge			
Serous/ Watery	Mucoid	Mucopurulent	Purulent
Viral Allergic	Allergic Keratoconjunctivitis sicca	Bacterial Chlamydial	Bacterial
Toxic Foreign body		Stevens-Johnson	

complications of drug treatment, which can make matters even worse.

As a general practitioner in a primary healthcare centre, having made a diagnosis of conjunctivitis based on conjunctival chemosis and hyperaemia, I would then focus my attention onto the discharge, to try and solve the dilemmas of diagnosis and treatment, and come up with a sensible plan of management. Table 1 shows the four major types of discharge that can be a pointer to the aetiology of the patient's condition: – serous or watery, mucoid, mucopurulent, or purulent. The first and last types are relatively easy to diagnose. A serous discharge generally indicates a viral infection or an allergic reaction, unless toxic or due to a foreign body; on the other hand, when it is purulent, it is almost certainly a bacterial conjunctivitis. Mucoid or mucopurulent discharge is a little more difficult to diagnose. A

predominantly mucoid discharge can be due to a keratoconjunctivitis sicca, especially in older patients, but in 90% of cases it will be due to an allergic reaction. If it is a mucopurulent discharge, I would say that in most cases it is either bacterial – maybe a chlamydial infection – or a Stevens-Johnson type of reaction, the conjunctivitis being secondary to a systemic disorder.

Management of conjunctivitis in primary healthcare

Type of discharge

Guidelines for the management of the patient with conjunctivitis can also be based on the type of discharge (Fig.1). A mucopurulent or purulent discharge should be handled as an infectious conjunctivitis, first taking a smear or sample for culture, and then treating with a broad spectrum antibiotic, four to six times daily as eye drops, and adding the same antibiotic as an ointment at bed-time. This treatment should be given for three to four days, and if the condition improves the same treatment can then be continued for a total of ten days. If there is no improvement, I would advise referring the patient to a specialist.

When the discharge is either serous or mucoid, it should initially be treated as an allergic reaction. The less severe, or uncertain cases should be handled in a conservative manner for the first three or four days,

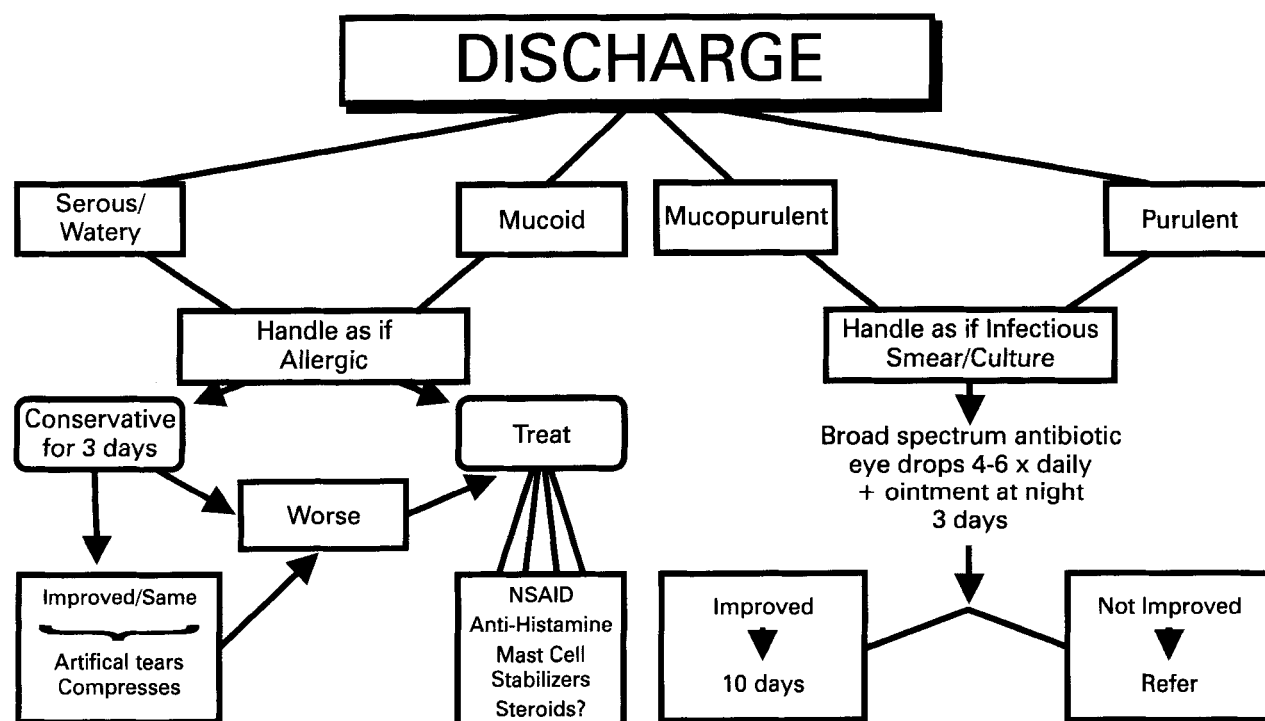


Fig. 1. Management of conjunctivitis based on type of discharge (adapted from BenEzra et al, 1994¹, with permission.)

with frequent eye-washing and cold compresses. If the patient's condition improves, or stays the same, conservative treatment remains the best course of action. If the reaction is clearly allergic, or it continues to worsen using conservative measures, treatment should be started immediately, and we have an array of drugs that can be used locally. In my experience, aspirin-like non-steroidal antiinflammatory drugs (NSAIDS) are not effective in these cases and I seldom use them, unless as an adjunct therapy to other drugs. Systemic or local antihistamine may be effective in some of the cases; in most, it is not. Deferring for a moment the question of whether to treat with steroids, we are left with the mast cell stabilising group of drugs, which in fact are not only mast cell stabilisers, but also have effects on the production of proinflammatory factors and various interleukins and cytokines.

Symptomatology

Conjunctivitis can be divided into the acute and the chronic, and an acute conjunctivitis again has two major types. When it is severe, and maybe accompanied by pain, the best course in the primary healthcare centre is to refer the patient, or consult with an ophthalmologist. If it is mild to moderate, I would

suggest first taking a smear from the fornix and sending a sample for culture; if we are dealing with an infectious disease, then we can treat it, as before, with a broad spectrum topical antibiotic. A non-infectious, mild to moderate acute conjunctivitis will be most probably of the allergic type: then we have the four possibilities of treatment as mentioned above. Again, the most effective mode of therapy in these cases would be to choose one of the mast cell stabilisers, and the most effective one of these nowadays appears to be nedocromil sodium.

The corticosteroid question

What about corticosteroid eye drops? They are very effective in most cases of allergic conjunctivitis. However, I would like to suggest that in primary healthcare centres their use should be avoided, including the so-called 'soft steroids', because I believe that this tagging of 'soft' is just evasive. The steroids have many complications and they should be feared. Firstly, they increase the opportunistic infections but, more importantly, they induce glaucoma and they induce cataract, and in my opinion the use of steroids induces chronicity of the conjunctivitis to a far greater degree than if they are not used.

The worst complications to be seen will generally



Fig. 2. Mismanagement of conjunctivitis: – ulceration of the cornea with uveitis and hypopyon due to overuse of corticosteroid eye drops

be associated with a long period of treatment with topical steroids, such as the induction of vernal plaques or shield ulcers. Steroids can induce melting of the cornea, leading to perforation. They can induce opportunistic infection around the eye lid and, more importantly, in the eyes of patients with contact lenses. There are also allergies to steroids, which may be severe, but I must reiterate that the most dreadful events to fear are glaucoma and cataract formation after prolonged treatment with topical steroids.

Fig. 2 shows the consequences of mismanagement in a patient with a mild conjunctivitis who was treated in a primary care facility with topical steroids, but who did not stop using the eye drops as advised by the doctor, because they made her feel better. This was how she presented, with a huge ulcer of the cornea, and already having uveitis and hypopyon (accumulation of pus in the anterior chamber of the eye). In primary healthcare, the use of steroids must be avoided.

Epilogue

In the management of conjunctivitis, it is important always to remember that the condition is often self-limited, yet may have devastating consequences if not properly handled. We should make every effort to avoid the drug-induced complications that can be far worse than the disease itself. I believe that if the 'rules of thumb' given here for the diagnosis and treatment of conjunctivitis in the primary care facility are followed, and if we ophthalmologists also take care to avoid the pitfalls of drug treatment, then together we will be able to manage properly our patients with allergic conjunctivitis¹.

References

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