



## Uveitis Information Group Factsheet

### The Treatment of Uveitis (2) Drug Treatments

Please use these factsheets as background information to help discussion with your doctors. Individual cases may vary enormously and so the best information will always come from your doctors. The information in this sheet has been checked for accuracy by leading Uveitis Specialists.

## Drugs used in the treatment of Uveitis

An article taken from the UIG newsletter no.3 Aug 99

The purpose of this article is to describe the different drugs used in the treatment of uveitis. The term drug would include eye drops, tablets and injections. Treatment of uveitis may also include the use of surgery and lasers but these are not being dealt with in this article.

The reasoning behind treatment has been covered in another fact sheet, "The Treatment of Uveitis" from Newsletter no.1, available from the group.

It is always worth repeating the fact that there are many different types of uveitis and a great deal of variation between individual cases. This means that the treatments will vary enormously and that some of the drugs described below will not sound familiar at all to some of us. No attempt has been made to make a list of all the names of the drugs used. There are many different trade names and there are no "best" drugs, as cases vary so much.

Before describing the different groups of drugs, it may be useful to remember the **aims** of treatment in uveitis:

### **WHAT SHOULD TREATMENT ACHIEVE?**

- 1. Relieve pain and discomfort**
- 2. Prevent sight loss due to the disease or its complications**
- 3. Treat the cause of the disease where possible, that is, treat the inflammation.**

The above 3 different aims of treatment explains the wide variety of drugs used in treating uveitis. In a few types of uveitis, the inflammation is caused by an infection and so patients are treated with antibiotics or antiviral drugs. Apart from this situation then the drugs used to treat uveitis fall into 3 main groups.

- 1. Steroids**
- 2. Immunosuppressants**
- 3. Mydriatics (pupil dilators).**

## 1. Steroids

Apart from certain types of uveitis caused by infections, (see above) the majority of cases are treated by altering the activity of the immune system. The immune system has recognised a part of our own body as foreign and reacts against it. This reaction is called inflammation. The action desired by those treating uveitis is to suppress the immune system or to "turn it down". Steroids have wide ranging effects but their action may be looked on as being **anti-inflammatory and immunosuppressant**".

### **Steroids make up the major part of uveitis treatment.**

They are used in different forms:

- ◆ **Eye drops**
- ◆ **Peri -ocular injections.** (injections locally around the eye).
- ◆ **Systemically** , via the blood stream, either:
  - (a) **Oral** (tablets) or
  - (b) **Intra- venous infusion** (drip).

The method used to "deliver" the steroid depends on the severity of the uveitis and where, in the eye, the inflammation is.

### **Eye Drops**

Steroid drops are used for Anterior Uveitis (iritis or iridocyclitis). The drops can penetrate the part of the eye in front of the lens, where anterior uveitis occurs.

There are many different names of drops and for that reason a list of different drops is not included here. Basically the drops will differ in their strength. The frequency of taking the drops will also vary depending on the severity of the uveitis.

In a very severe case, the strongest drop may be used every hour initially, whereas someone else with a mild inflammation may only need to use the weakest drop once or twice a day. Anterior uveitis, remember, may be **acute**, (coming on suddenly and stopping in weeks) or **chronic** (coming on slowly and lasting for months or years).

This will also affect the length of time that drops are taken for.

As a general rule the treatment with drops is started off very frequently with stronger drops to reduce the inflammation as quickly as possible. The treatment would then be "tapered off" gradually before being stopped. This is important because potentially the eye may be damaged by even short periods of inflammation if not treated vigorously enough.

### **Periocular Injections**

Sometimes it is considered necessary to use injections around the eye to deliver the steroid treatment. There are only certain situations where injections offer a better way forward than either tablets or drops. They are usually used along with other forms of treatment.

Situations where injections are used include:

- ⇒ Severe cases of Anterior uveitis which can not be controlled by drops

alone.

⇒ Intermediate Uveitis

⇒ To avoid or limit systemic steroids in the younger age groups. This is to avoid the side effects of systemic steroids which are more significant in children. ( see next section; -systemic drugs).

From the patient's point of view it is fairly obvious what the drawback of the injection is. If given a choice between taking the same drug by drop, tablet or injection, you wouldn't need a questionnaire to find out that the injection wouldn't get many votes. Injections, as stated before, are only considered in certain situations when they are thought necessary. Injections may have distinct advantages over other means in some situations.

Injections do vary in type and the discomfort of the injection itself and its after effects will vary. Usually they are straightforward and not too uncomfortable. If our doctor thinks that injections would be necessary, then we mustn't be afraid of asking what is involved. This is particularly the case with children where the use of a general anaesthetic is sometimes considered.

## **Systemic Steroids**

### **(a) Oral Steroids**

Prednisolone is the name given to the tablets likely to be used.

The use of systemic steroids is more serious than, say, steroid drops because in this form there are potentially significant side effects. It becomes even more important to be able to talk to our doctors about the **benefits** and the **risks** of the treatment. (see also "The Treatment of Uveitis" article taken from Newsletter no.1).

There are many different situations in which oral steroids are considered. So far we have seen how Anterior uveitis is usually treated by drops alone. In certain circumstances, then injections may be used. If Anterior uveitis is particularly severe or resistant to treatment with drops and/or injections then it is possible that systemic steroids may be considered. However, the main use of oral steroids is to treat those types of uveitis that affect the back of the eye, (posterior uveitis, retinochoroiditis and panuveitis are examples of several terms used).

### **Dosage**

Prednisolone is usually found as 1milligram (mg.) and 5mg. tablets. The dosage usually starts off very high and then the inflammation is observed very closely and when it is being controlled the dosage will be gradually tapered off to the lowest possible dose which will keep the inflammation from recurring. It will come as no surprise that there are no typical dosages or times for the tapering off period! As we know by now there are so many different types of uveitis, there may be one or both eyes involved, the uveitis may be severe or mild and so on. However the range of high dosage would be considered to be 40-80mg. At the other end, if the steroid can not be discontinued altogether, then it is thought that dosages of 7.5 mg and below give rise to "acceptable" risks of side effects. If the uveitis seems to be resistant to the steroid therapy or if the inflammation starts up again when the steroids drop below, say, 40mgs. then other immunosuppressants may

be used along side the steroids. (see below)

### **Taking our medicine!**

It is very important to have a good routine when we take steroid tablets. The effects of missing daily dosages of steroids can be significant. To make sure we keep good control of our uveitis it is essential that we have a set routine. Using a calendar, stuck to a box with the drugs in them is an example of how easy it can be to make sure we never miss a dose.

\* Keep to the instructions given by the clinic.

\* Steroids are usually taken before breakfast each day.

\* **Never** stop taking steroids or reduce their dosage. This can be very dangerous.

\* Contact your doctor if you develop any illnesses, especially infections.

\* **Always carry a steroid card.** Think about carrying a bracelet or necklace such as provided by Medicalert (Tel: 0207833 3024)

### **(b) Intra-venous Steroids**

Occasionally, a situation may arise when rapid control of an acute episode of inflammation is needed. This may be if the sight is threatened and a high dosage of steroid needs to be delivered quickly.

In this case a steroid called methylprednisolone may be used. It is given by means of an intravenous infusion ( a drip) . The dose is infused over approx. 2 hours and is usually repeated 24 hours later for upto 3 doses. This procedure is normally carried out in a hospital ward because close monitoring of side effects and reactions eg blood pressure are required.

A rapid effect hopefully follows so that a routine of oral drug treatment can be resumed.

### **Side Effects of Steroids**

A large separate article, or even a book, could easily be written about the side effects of steroids We must be careful when we think about this. On one hand, there can be serious side effects which can be troublesome and have to be appreciated when balancing **benefit** and **risk** of treatment. On the other hand, most of us who take steroids will only experience a few, if any, significant side effects. So we must respect the list of possible problems caused by taking steroids, but we mustn't panic when we see the "long list".

The side effects of systemic steroids, then, include the following:

- Nausea, dyspepsia(heartburn)
- Increased appetite, weight gain and fluid retention
- Mood changes, including depression or euphoria.
- Hypertension, (high blood pressure).
- Increased hair growth
- Diabetes
- Osteoporosis
- Bruising and delayed wound healing
- Growth suppression in children.
- Cataract

- Glaucoma (raised eye pressure).

Most of these effects are monitored at your eye clinic, using blood tests etc. but if you are concerned about any side effects you should ask your doctor. The side effects are not being dealt with in detail here. Please contact the UIG if you are interested in following up any of the side effects and more detailed general information is available.

This topic will also, inevitably, feature in future newsletters.

To end the section on side effects on a positive note, virtually all the problems listed above can be minimised by a combination of a good diet and plenty of exercise, a subject which will feature in the next newsletter. As said before, steroids make up the mainstay of treatment, but we will now take a briefer look at the two other important groups of drugs.

## 2. Immunosuppressants

Steroids do suppress the immune system in a general way, but there are a different group of drugs that may be used to treat **some** forms of uveitis, in certain situations. These drugs tend to target the immune system more precisely than steroids. They are usually used in conjunction with steroids. All these drugs have their share of side effects. The main examples are:

- ♦ Cyclosporin
- ♦ azathioprine
- ♦ Methohextrate

There are a number of newer drugs that are being looked at which fall into this group. This is an area where research is very active and will always be an area to watch.

The group has specific information on this group of drugs on request. If you are taking a drug which you think may be of this type and wish to know more about it then please contact the group.

## 3. Mydriatics

Mydriatics are used in the treatment of anterior uveitis and have 2 main aims.

- (a) To relieve pain and light sensitivity.
- (b) To prevent sight threatening complications.

Mydriatic eye drops, such as atropine and cyclopentolate, are used. Again there are many names of these type of drops, but they are grouped into "long" or "short" acting. They may be used for variable lengths of time depending on individual cases. A mydriatic works by "paralysing" the muscles of the iris and the ciliary body. (it is the movement of these inflamed muscles that causes the pain). When these drops have taken their effect the pupils will be dilated. This may cause blurring of the vision.

The mydriatics are also useful because they help prevent a complication which may occur in anterior uveitis where the inflamed iris "sticks" to the lens. This is known as **adhesions** or **synechiae**. This can lead to a raised pressure in the eye which may be sight threatening if not treated.

The use of mydriatics is simple but the blurring of near vision, for a while after they are put in, can be disruptive for some patients at work or at home.

**It is important , then, to remember that these drops are not just relieving pain and discomfort but they can be very important in preventing significant complications later on.**