***STANDARD OPERATING PROCEDURE FOR POSTERIOR UVEITIS***

**1. HISTORY**

*1.1 FOLLOWING POINTS PERTAINING TO THE HISTORY OF PRESENTING COMPLAINTS WILL BE ASKED:*

* + - Floaters
    - Photophobia
    - Redness
    - Pain
    - Visual disturbances: any blurring or scotoma (central or peripheral)
* Photopsia
* Metamorphopsia
* Regarding ONSET: if it is sudden or gradual
* Regarding PROGRESSION from time of complaint to presentation
* Any ASSOCIATED SYMPTOMS like fever, cough, joint pains, skin rashes, burning micturition etc. will be asked.
  1. *PAST HISTORY* for similar illness will be taken
  2. *HISTORY OF ANY SYSTEMIC ILLNESS* likeconnective tissue disorders, tuberculosis or immunocompromised state will be obtained.

**2. OCULAR EXAMINATION:**

* Eyelid and skin: for Vitiligo or Nodules
* Conjunctiva (Perilimbal or diffuse injection or nodules)
* Visual acuity
* Visual axis
* Pupillary reactions ( sluggish or brisk- comparing both sides)
* ***2.1 Slit-lamp examination:***

Any signs of inflammation will be seen in:

* Cornea
* Anterior chamber
* Iris
* Pupils
* Anterior Vitreous:

(Grading of Anterior Vitreous cells will be done according to the scheme mentioned in American Journal of Ophthalmology (2011-2012 edition)

* + Inflammatory cells (single/clumped)

|  |  |
| --- | --- |
| GRADE | NUMBER OF CELLS |
| 0 | No cells |
| +/- | 1-10 |
| 1+ | 11-20 |
| 2+ | 21-30 |
| 3+ | 31-100 |
| 4+ | >100 |

* + Traction bands

***2.3 DIRECT AND INDIRECT OPHTHALMOSCOPY***

(After full dilation of pupils)

* Pars plana
  + Snowball opacities
  + Snow banking
* Retina
  + Inflammatory cuffing of blood vessels
  + Edema
  + Cystoid macular edema
  + Epiretinal membranes
* Choroid
  + Inflammatory infiltrate
  + Atrophy
  + Neovascularization
* Optic Nerve
  + Edema
  + Neovascularization

***2.4 INTRAOCULAR PRESSURE***

***2.5 SYSTEMIC EXAMINATION***

* + Preliminary systemic examination will be done.
  + General physical examination: pallor/ icterus/ cyanosis/ raised JVP/ clubbing/ edema/ lymphadenopathy will be looked for.
  + Respiratory system examination: chest will be looked for decreased air entry on either side or for any abnormal sounds like crepts or wheeze.
  + Gastrointestinal system examination: any abdominal tenderness, hepatomegaly or splenomegaly or abnormal mass will be looked for.
  + Musculoskeletal system examination: all joints will be looked for any swelling, erythema or tenderness
  + Dermatological examination will be done.
  + For detailed systemic examination patient will be referred to physician and dermatologist ( whenever required)

***4. INVESTIGATIONS:***

* 1. ***OCULAR INVESTIGATIONS***
* *FUNDUS PHOTOGRAPHY:* 
  + Serial color fundus photographs will be taken to help in follow-up of disease.
* *FFA:*
  + At the time of presentation:
    - (For confirming the activity of a choroiditis/retinitis denoted by a characteristic early hypo fluorescence and late hyper fluorescence in case of active choroiditis).
  + Follow-up:
    - (To detect disease sequelae such as neovascularization, capillary non-perfusion areas, vascular staining in cases of retinal vasculitis, to detect cystoid macular edema (CME), VKH and presence, type and activity of choroidal neovascularization (CNV) etc.
* *OCT*:
  + Will help in detecting and monitoring macular pathologies such as CME, Epiretinal membrane, CNV membrane (CNVM) and macular hole etc.
* *Ultrasound B scans (USG)*:
  + Will help to differentiate rhegmatogenous and exudative retinal detachment, to look for increased choroidal thickening ( as in Vogt Koyanagi Harada’s disease (VKH), presence of T-sign and/or Tenon’s space scan widening in posterior scleritis, to diagnose intraocular tumors, masquerading as uveitis and elevated mass-like lesions such as TB sub retinal abscess.
  1. ***SEROLOGICAL INVESTIGATIONS:***

*(Investigations will be tailored according to the clinical suspicion)*

***Chorioretinitis with vitritis:***

* FOCAL:
  + CBC/ ESR/ TLC/ DLC
  + ELISA for Toxoplasmosis, Toxocariasis and CMV
  + HIV: western blot
* MULTIFOCAL:
  + CBC/ ESR/ TLC/ DLC
  + Serum ACE, lysozyme
  + ELISA for VZV, HSV
  + ELISA for toxoplasma
  + RPR, VDRL (screening); FTA-ABS (confirmatory)
  + HLA-B29
* DIFFUSE:
  + CBC/ ESR/ TLC/ DLC
  + ELISA for Toxocariasis
  + If vitrectomy with vitreous culture is required, patient will be referred to higher center.

***Chorioretinitis without vasculitis:***

* FOCAL:
  + Investigations to rule out a primary tumor
* MULTIFOCAL:
  + CBC/ ESR/ TLC/ DLC
  + Histoplasma antibodies

***Vasculitis:***

* + ANA
  + C-ANCA
  + HLA-B27, HLA-A29, HLA-B51
  1. ***CSF studies***

*(Will be done where meningeal involvement is suspected)*

* Glucose, CSF VDRL cytology, cultures, Gram stain
  1. ***Radiographic studies***
* Chest radiograph
* Sacroiliac joint films
* CT of chest
* CT/MRI-brain and orbits
  1. ***Mantoux test***

***5. TREATMENT:***

***5.1 SPECIFIC TREATMENT:***

*It will be started if a specific cause of posterior uveitis is found.*

* TOXOPLASMOSIS:
  + Antiparasitic drug ( Sulfadiazine + pyrimethamine)
  + Sulfadiazine: 1 gram QID in adults and 50-100 mg/kg/day in children.
  + Pyrimethamine: Loading dose of 100 mg followed by 25-50 mg/day in adults and 1 mg/kg/day in children
  + Oral steroids: 0.5-1 mg /kg/day in tapering dose, started at least 1 day after Antiparasitic drug
  + Therapy is given for 5-6 weeks
* CYSTICERCOSIS:
  + For surgical treatment patient will be referred to higher center for vitreoretinal surgeon consultation.
* SYPHILIS:
  + Benzathine penicillin G(dose depending on stage) /Doxycycline
  + *For primary, secondary or early latent:* Benzathine penicillin G 2.4 million units IM ( single dose) Alternatively, Doxycycline 100 mg BD for 2 weeks or Tetracycline 500 mg QID for 2 weeks
  + *For late latent, tertiary stage or those who fail primary therapy:* Benzathine penicillin G 2.4 million units IM, once weekly for 3 weeks. Alternatively, Doxycycline 100 mg BD for 4 weeks or Tetracycline 500mg QID for 4 weeks
  + *Neurosyphilis:* Aqueous penicillin G 3-4 million units IV every 4 hours for 10-14 days. Alternatively, Procaine Penicillin 2.4 million units IM daily for 10-14 days and Probenecid 500mg QID for 10-14 days
* LEPTOSPIRA: Oral Amoxicillin + Clavulanic acid for 3 weeks
* TUBERCULOSIS:
  + ATT (steroids under cover of ATT)- Under DOTS programme
* LEPROSY:
  + Multidrug regimen ( rifampicin, dapsone and clofazimine) for 6-12 months
* CAT SCRATCH DISEASE:
  + Self-limiting
  + In immune-compromised: Doxycycline 100 mg BD or Azithromycin
* TOXOCARIASIS:
  + Antihelminthic not recommended
  + Oral steroids in dose 0.5-1 mg/kg/day for 5-6 weeks
* SARCOIDOSIS:
  + Depends on degree of inflammation
  + Periocular or systemic steroid may be given
  + Optic nerve involvement will warrant use of iv methylprednisolone
* VKH:
  + In early phase, high dose steroid iv or orally
  + Prednisolone 1.5-2 mg/kg/day orally for 5-6 weeks with gradual tapering
* BIRD SHOT CHORIORETINOPATHY:
  + Steroids or immunosuppressant for weeks with gradual tapering
* SERPIGINOUS CHOROIDITIS:
  + Steroids or immunosuppressant for weeks with gradual tapering

***5.2 NON-SPECIFIC TREATMENT:***

* STEROIDS: used as anti-inflammatory, systemically
* IMMUNOMODULATORS: in place of steroids, e.g. Cyclosporine, Azathioprine, low dose Methotrexate