Case report

Labs, signs, history-unravelling the TORCH mystery!

Abstract:
TORCH infections have variable clinical presentation and are caused by various organisms. A 29 y/F came with chief complaint of sudden and painless diminution of vision in right eye(RE) since 2 months when she was pregnant. She gave history of intrauterine fetal death one month back. Distant visual acuity was 6/36 in RE and 6/36 in the left eye (LE). Posterior segment examination revealed vitritis, resolving subhyaloid bleed anterior to macula, patch of retinochoroiditis along inferior arcade with exudates at macula and early macular star in RE. The labs showed reactive Toxoplasma IgG and IgM, CMV IgG reactive and HSV 1 and 2 IgG positive. At follow up, posterior segment of RE revealed significant resolution of retinal pathology. Therefore, TCH infections should be ruled out in a reproductive aged female presenting with unilateral blurring of vision.

Key-words: TORCH, IUFD, Blurring of vision

Key Messages :1. Never miss history especially in female patients of child bearing age group presenting with blurring of vision.

2. Routine TORCH screening tests in antenatal checkup centres are necessary to prevent its complications.

Text

Introduction:

Causative organisms of TORCH infections comprise toxoplasma gondii, treponema pallidum, hepatitis B virus, rubella virus, cytomegalovirus, and herpes simplex virus (HSV). These include Toxoplasmosis, Others: Hepatitis B, Syphilis, Rubella, Cytomegalovirus(CMV) and herpes simplex respectively. Maternal predisposing factors include incomplete or lack of immunizations, sexually transmitted infections and animal exposures during pregnancy.[1] Ocular manifestations of these infections include diminution of vision, metamorphopsia, floaters caused as a result of retinal lesions. These cases may escape detection and to emphasize its early diagnosis and role of preventive measures, we report a case of 29y/Female with history of intrauterine fetal death and unilateral blurred vision who underwent incomplete antenatal checkups and was not diagnosed until she developed visual complaints.

Case History:

A 29 years old female presented to Ophthalmology outpatient department with chief complaint of sudden and painless diminution of vision in right eye since 2 months. On detailed history taking, she gave history of experiencing the above complaints when she was in third trimester of pregnancy (2 months back). She had a full term normal vaginal delivery with intrauterine fetal death(IUFD). There was no history of retroviral disease, TORCH infections and heavy weight lifting. She had two previous live births, uneventful. On complete ophthalmic evaluation, visual acuity was 6/36 improving to 6/18 in the right eye (RE) and 6/36 improving to 6/9p in the left eye (LE). Anterior segment of both eyes was within normal limits. On posterior segment examination, RE showed vitritis, subhyaloid bleed inferior to fovea, patch of retinochoroiditis about 1DD along inferior arcade with exudates at macula and early macular star formation(Figure 1) and LE was within normal limits.

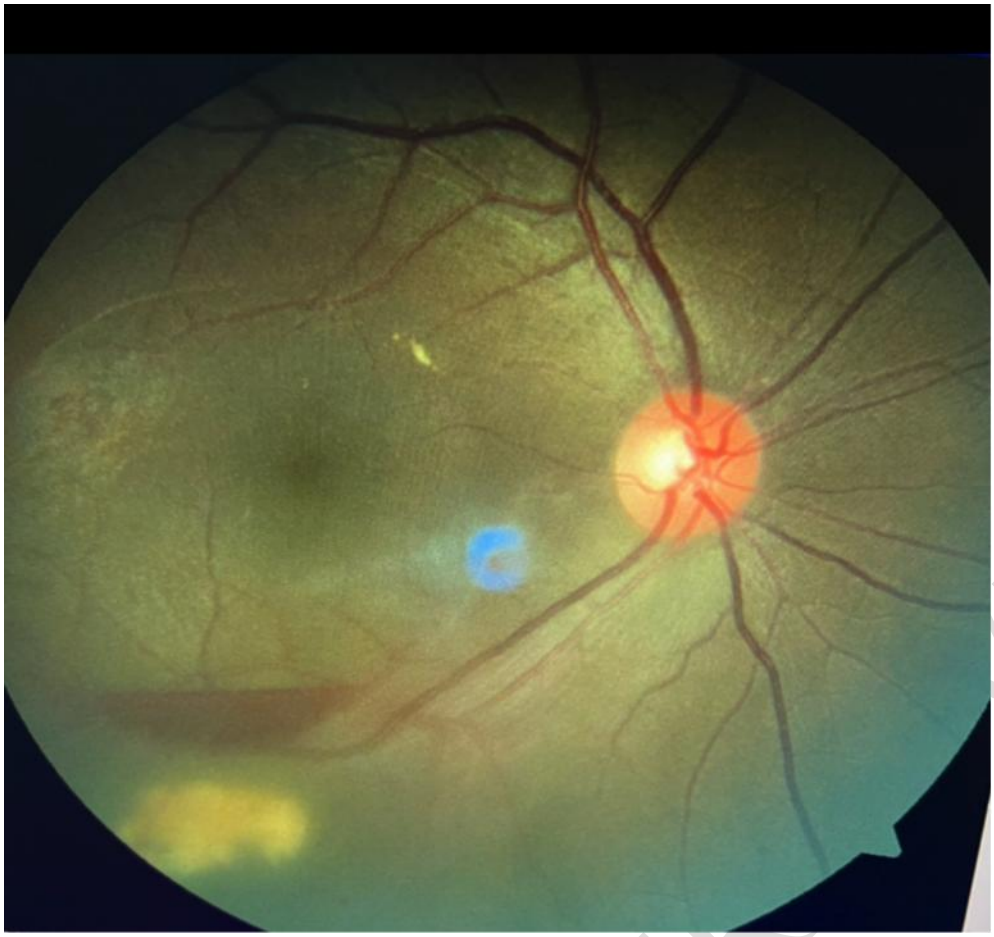

Figure 1: Posterior segment of right eye showing vitritis, subhyaloid bleed inferior to fovea, patch of retinochoroiditis about 1DD along inferior arcade with exudates at macula and early macular star were noted in right eye.

Patient was advised to get TORCH workup, Veneral disease research laboratory test, Rapid plasma reagin test, Erythrocyte sedimentation rate, Complete blood count, HIV, HbsAg, HCV, Chest Xray and Mantoux test. The labs showed reactive Toxoplasma IgG and IgM, CMV IgG reactive and HSV 1 and 2 IgG positive. Patient was referred to the physician for further management of underlying etiological conditions. Patient was started on oral Valgancicyclovir 500mg for 15 days. Regular follow up was advised and retinal pathology was observed with nil ophthalmologic intervention.

At follow up after 2 months, patient was symptomatically better. Visual acuity was noted as 6/12p improving to 6/12 in right eye and a drastic improvement in the retinal pathology seen as complete

resolution of active patch of retinochoroiditis and vitritis with significant decrease in subhyaloid bleed leaving a remnant small retinal haemorrhage. (Figure 2)

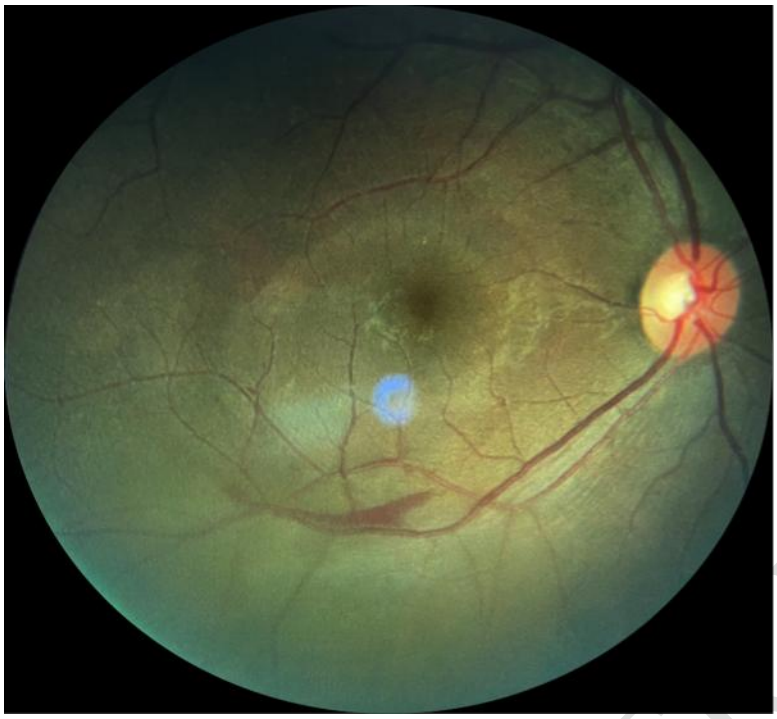

Figure 2: At follow up after 2 months, posterior segment of right eye showed resolution of active patch of retinochoroiditis with significant decrease in subhyaloid bleed leaving a remnant small retinal haemorrhage

Discussion:

Causative organisms of TORCH infections comprise *Toxoplasma gondii*, rubella virus, cytomegalovirus, HSV 1 and 2, hepatitis B virus, HIV, and others like syphilis,etc. Routes of transmission of these pathogens may occur prenatally or perinatally by the transplacental route and by blood or vaginal secretions respectively. Proper immunization of mothers helps to prevent Rubella and varicella.[3]

Toxoplasmosis is often subclinical and has variable clinical presentation. Patient may remain asymptomatic or present with symptoms like episodes of minimal inflammation, multiple recurrences of severe uveitis, visual impairment,etc. Retinochoroiditis is an apparent evidence of toxoplasmic infection which may present with severe corollary, including complete loss of vision.[4] A typical retinochoroiditis lesion is focal and necrotizing in nature

associated with vitreous reaction and healed satellite lesion, in cases of recurrent attack. About 1 to 4 in 100 women (1 to 4 percent) have CMV during pregnancy. Maternal CMV infections during pregnancy are usually not clinically recognized and universal maternal screening for CMV infection is not recommended. There are no accessible wide-ranging programs that allow both neonatal or maternal screening to detect TORCH infections. There are no vaccines or safe therapies available for prevention of infection and treatment of maternal or fetal CMV infection.[2] For proper diagnosis and evaluation of TORCH infections, a key area of investigation is a detailed maternal history. Risk factors for toxoplasmosis include exposure to cats and the ingestion of undercooked meat or unpasteurized dairy products.[5] During the first trimester, febrile illness, poor maternal weight gain, fetal abnormalities or fetal loss can occur. Low birth weight, rashes, microcephaly, findings suggestive of cardiac abnormalities cataracts, chorioretinitis,etc may be seen on physical examination. Since the maternal infection is predominantly asymptomatic (80% cases), the infection often remains unrecognized.[6]
Early *in utero* diagnosis and maternal education is very important to detect TORCH infection. Preconceptional screening for TORCH infections could permit a correct interpretation of serological and virological tests and prevention of its complications. Prompt management permits treatment during pregnancy (toxoplasmosis and syphilis). Oral or intravenous acyclovir is given prophylactically at delivery (HSV) as it helps to eliminate risk to the newborn. Vision, location and size of lesion and vitreous inflammatory reaction have been identified as indications for systemic treatment. [7]

Fransziska et al conducted a systematic literature search to identify serosurveys on TORCH pathogens in Southeast Asia and concluded that comprehensive serosurveys including general population and pregnant women are required due to paucity of reliable information for several pathogens and low quality of the studies. Creating awareness of the risks posed by TORCH pathogens both in pregnant women and healthcare workers, is the foremost step towards prevention of fetal loss and congenital malformations.[8]

There are no large scale programs, vaccines and effective therapies for identification and treatment of maternal or fetal CMV infection.[9] Therefore, the challenge is to incorporate knowledge of the risks and consequences of maternal CMV infection with the goal of preventing CMV infection during

pregnancy in medical practice. High risk women should be identified and provide them with information on maternal and congenital CMV infection and instructions to decrease the risk of infection. [10]

Our patient had gone for few antenatal checkups irregularly at a rural centre. She had got sonography done to assess the fetal status once during pregnancy but no blood investigations were done. Even after IUFD, she was not tested for any probable infective causes. The patient presented to us after 2 months with visual complaints and retinal pathology. Laboratory tests were done. Following which it was known that she was suffering from TORCH infections. This shows lack of routine TORCH screening tests in antenatal checkup centres and its impact on visual morbidity. If she had been thoroughly investigated earlier, early management could have prevented the loss of vision. Hence, it is necessary to create awareness in rural centres and patients about the importance of routine antenatal TORCH screening tests to prevent fetal and maternal complications.

Conclusion:

Never miss history especially in female patients of child bearing age group presenting with blurring of vision. Also, they should be tested routinely for these infections to deliver early detection, intervention and prevention of TORCH infections.

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