Ovulation-associated uveitis

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SUMMARY A case of anterior uveitis regularly recurring with ovulation is reported.

Uveitis is one of the diseases in which a variety of aetiological and associated factors play a role, and conclusive evidence on the precise cause is often not established. This is also true of hormonal influences. However, we have observed a remarkable case of an association between sex hormones and recurring uveitis.

Case report

A female patient aged 25 came to our hospital complaining of recurrent redness and defective vision in both eyes of 6 months' duration. The history revealed that this complaint occurred regularly about 12 days before the onset of menstrual bleeding. The periods were regular and there was no dysmenorrhoea. The patient had been married for one and a half years and was nulliparous. She had recently discontinued the use of Anovlar (norethisterone acetate 4 mg, ethinyloestradiol 50 µg) for contraception.

Ocular examination showed a visual acuity of 6/12 in each eye. There was circumcorneal ciliary congestion in both eyes. A few fine keratic precipitates and grade I aqueous flare were also seen. Both fundi were normal. The intraocular pressure was normal. Gynaecological examination showed an anteverted, normal-sized uterus; the fornices were free and the cervix was healthy. Further investigations gave a normal haemogram, a nonreactive VDRL, and showed nothing abnormal in urine and stools. Radiographs of the paranasal sinuses and chest failed to reveal any lesion.

Endometrial biopsy showed a secretory phase. Biochemical and hormonal investigations for plasma progesterone levels were carried out. The findings were as follows: on the 6th day of the cycle, 0.20 ng/ml (0.6 nmol/l); 13th day of the cycle, 2.73 ng/ml (8.7 nmol/l); 20th day of the cycle, 8.79 ng/ml (27.9

nmol/l); 26th day of the cycle, 4.94 ng/ml (15.7 nmol/l).

The patient was given steroids and atropine locally and subconjunctivally. The symptoms subsided.

After some months the patient returned and reported that following the last attack, when she was treated, she had two others at regular intervals. She could not come for treatment then. She had coincidentally resumed the use of Anovlar and was happily surprised that since then there had been no more attacks.

She is at present free of symptoms, and ocular examination reveals no abnormality.

Discussion

Uveitis is well known to be influenced by or connected with various endocrine factors. Yet its relationship with sex hormones is neither amply documented nor well substantiated. Cant¹ has reported a case of menstrual red eye. It was in fact a hypopyon iritis in one eye occurring consistently for 3 years with both regular and irregular menstrual cycles. The various investigations were normal but for an eosinophilia. Another case² was an incidental finding of an irritable red eye in a patient who stated it had been a regular feature before the beginning of every period over the preceding 20 years. The patient showed signs of corneal involvement and impaired vision in the left eye. The condition responded to antibiotics and mydriatics. Neither of these reports, however, describe the effect of hormone therapy on the condition.

Heaton³ studied many patients with uveitis and thought that some of these cases should be included in the premenstrual syndrome described by Greene and Dalton.⁴

The distribution of mast cells in the normal eyes of experimental animals such as rats and guinea-pigs was studied by Smelser and Silver.⁵ They found that a large number of mast cells were present in the

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posterior choroid, the distribution following the uveal vessels. A high concentration was constantly seen along the long posterior ciliary arteries. In the deeper parts of the ciliary body there was a ribbon-like band completely round the eye. The ciliary processes contain very few mast cells and these are almost absent in the iris. Parish, cited by Selye,⁶ concluded that mast cells are mediators of changes occurring in inflammation; they provide a reserve of material readily available in sudden physiological stresses or damage to the tissues. In the rabbit's eye the mast cells have been shown to undergo degranulation as a result of experimentally induced hypersensitivity (type I of Gell and Coombs⁷). In acute inflammation the mast cell number falls and in chronic inflammations it rises, according to Gunther, cited by Selye.⁸

The mast cells are found in the female genital tract during the follicular phase. The endometrial mast cells degranulate premenstrually and gradually regenerate in the rest of the cycle. No mention of any ocular change has been made.⁹ Intrauterine con-

traceptive devices do not cause any change in mast cell content of the genital tract.¹⁰

In this case the nonoccurrence of uveitis during the anovulatory cycles after the use of a contraceptive proved the relationship between ovulation and uveitis.

References

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