Cyproterone Acetate and Meningiomas in a sex offender. A case report

E. P. Pastor, P. English
Diabetes and Endocrinology, Derriford Hospital, Plymouth, UK

Introduction:
- BBC news UK, Radio 4, 13th June 2007: Chemical castration as the potential government plan against paedophilia.
- Cyproterone acetate is a progestogen that has an androgen receptor antagonist activity and it has been used by psychiatrists for chemical castration.
- There is contradictory data regarding its effects on the growth of meningiomas; it has been suggested that progestins promote growth as progesterone receptors predominate in meningioma tissue, but in vitro, it inhibited the growth of meningioma cells.
- We present a case where a brain meningioma may have grown following anti-androgen therapy for hyper-sexuality.

Case history:
- 54 years old male sufferer from a sexually driven behavioural disorder was started on cyproterone acetate (legal requirement as high risk and patient voluntary accepted), alongside anti-psychotics in 1996.
- Referred to Endocrine clinic in 2001 with gynaecomastia secondary to anti-androgen therapy and mild hyper-prolactinaemia secondary to anti-psychotic medication.
- Bilateral mastectomy performed in 2003.
- Admitted with neurological symptoms in 2004 and brain CT showing lacunar infarcts with small vessel disease and an incidental 1.5 cm left sphenoid wing meningioma.
- Brain MRI in 2007 showed enlargement of meningioma to 3 cm size and another tumour in the cribiform region.
- After surgical resection of both meningiomas (WHO grade 1 with extensive areas expressing progesterone receptors), cyproterone acetate was stopped and changed to zoladex injections.

Discussion:
- Cyproterone acetate as the cause of this rapid growth is debateable given in vitro results against this, but the meningioma was full of progesterone receptors and it almost doubled in size over 2.5 years, and on discussion with the neurosurgical team, this would be most unusual.
- Cyproterone acetate was felt to be the likeliest cause. There are other potential risks with this drug such as depression or hepatic toxicity.
- Alternative treatments are other anti-androgens (Flutamide) or gonadorelin analogues (Zoladex), but psychiatrists are just familiar with cyproterone acetate.

Conclusions:
- The government plan is medical castration but they need to be aware of possible side effects.
- If this strategy is to be implemented, there should be a guidance as which agent to use and how to use them in this context since it is out with the experience of many endocrinologists and psychiatrists.
- Progesterone and synthetic progestins should not be prescribed in patients with meningiomas.
- It may be good practice to screen patients for meningiomas before commencing cyproterone acetate but there are other effective alternative treatments.