drops were replaced and her bronchospasm remained quiescent, with no bronchodilators being required.

There are few reports of adult twin pairs with glaucoma and most of these are incomplete with regard to either zygosity or the type of glaucoma. However, a Finnish population-based twin study has found three out of 27 monozygotic and three out of 79 dizygotic twin pairs to be concordant for open-angle glaucoma, indicating the role of genetic factors in open-angle glaucoma. This is the rationale for screening first-degree relatives of patients with open-angle glaucoma but the probability of a monozygotic co-twin developing glaucoma will be even greater. Unfortunately the co-twin in this report was not screened and presented independently. She would have been detected much earlier with less advanced disease had screening been instigated.

Bronchospasm precipitated by beta-blockers is attributed to pharmacological antagonism at the beta-2 adrenoreceptors in the bronchial smooth muscle. Both non-selective and cardio-selective beta-blockers can precipitate bronchospasm which can occur both in patients with and without a personal or family history of asthma. Bronchospasm may occur both following the administration of systemic beta-blockers and secondary to topical ocular beta-blockers, the small amounts of which (0.5 mg) are absorbed into the systemic circulation through the conjunctiva and nasolacrimal mucosa thereby avoiding first-pass metabolism in the liver to produce profound systemic effects. Thus bronchospasm can be produced by any beta-blocker in any subject.

This is the first known report of bronchospasm being precipitated by beta-blockers in both members of a monozygotic twin pair who also had glaucoma. The clinician should be aware of the possibility of similar diseases and adverse drug reactions occurring in monozygotic twins.

P.J. Gray
The Regional Eye Unit, Old Church Hospital, Romford, Essex RM7 0BE, UK.

References

Cauda equina syndrome associated with ankylosing spondylitis in a female

Sir,

A 61 year old woman had ankylosing spondylitis (AS) since the age of 23. At 43 years she had a recurrent effusion of the right knee and this was treated with synovectomy and patellectomy. At 57 years she had a left total hip replacement and at that time the right knee was noted to be stiff in extension.

She was admitted for investigation with a two month history of urinary incontinence, loss of sensation in the perianal area, some faecal incontinence and altered sensation on defaecation. On examination there was evidence of severe AS. On neurological examination, power and tone were normal. Reflexes were absent in the right lower limb but plantars were bilaterally flexor. Saddle anaesthesia was found and anal tone was diminished. A diagnosis of a cauda equina lesion was made. A myelogram was unsuccessful. A computed tomographic (CT) scan of the lumbosacral region showed no evidence of a space occupying lesion or disc prolapse. No further treatment could be offered.

Cauda equina syndrome associated with AS is rare and was first described by Bowie and Glasgow who documented three patients who developed cauda equina lesions many years after the AS disease had settled. In a review by Bartleson et al., most patients' AS was asymptomatic for years before neurological complaints began. Sphincter disturbance and cutaneous sensory loss were the most frequent manifestations. All patients were able to maintain ambulation much as they had before the onset of their cauda equina syndrome, and sensory and sphincter function was disturbed more than motor function. Painless neurotrophic skin ulcers secondary to the sensory loss have been described. The progress of the syndrome is slow and the neurological defects are symmetrical. Post-irradiation sarcoma may mimic this syndrome, in those patients previously treated for their AS by radiotherapy.

A variety of treatments have been tried, including high dose steroids and laminectomy, but none has been shown to be effective. Surgical exploration should be avoided, as it usually results in transient worsening of symptoms with no proven benefit. In the review by Bartleson et al., seven of the 12 men had a notable history of prior prostate surgery with little or no benefit from the procedure and often resulting in increased urinary incontinence which may be the first presentation of this syndrome. The presentation is slowly progressive with symmetrical neurological defects developing long after the rheumatological symptoms have diminished. CT scanning or magnetic resonance imaging is the preferred method of investigation and fails to demonstrate a space occupying lesion.

What is particularly interesting about this case is that the patient was female. As far as we are aware, only two previous reported cases have occurred in females. There is no effective treatment but awareness of this complication will prevent needless invasive investigation and the earlier institution of supportive care.

Sudhir S. Kushwaha
Victor L. Steinberg
Department of Rheumatology, Central Middlesex Hospital, London NW10 7NS, UK.

References
Worsening neurological status in late pregnancy: consider meningioma

Sir,

We would like to report a case of worsening neurological status in late pregnancy due to a meningioma. A single 34 year old primigravida was admitted at 35 weeks gestation complaining of depression and right-sided headaches. The depression was of acute onset whereas the headaches occurred 5 weeks ago but had worsened over the previous week. A preliminary diagnosis of an acute depressive disorder was considered by the psychiatrist. She was afibrile and normotensive. The uterine size was equivalent to a 36 weeks gestation with a single live fetus.

As a result of her refusal or inability to eat and the detection of ketonuria, there was rapid infusion of fluids. Subsequently her condition worsened and neurological reassessment detected a left hemiplegia and ptosis with early bilateral papilloedema. A diagnosis of a right cerebral space occupying lesion was made. Intravenous fluids were restricted to 1 litre in 24 hours, and parenteral dexamethasone administered. She improved but with persistence of the left hemiparesis. An elective caesarean section was performed with delivery of a healthy 2,650 g male infant. There was immediate improvement and by the third post-operative day, she was able to attend to her baby.

One week postpartum, she travelled to nearby Venezuela for magnetic resonance imaging (MRI) scan and angiography of the brain. These revealed a right temporal lobe lesion. Three weeks later, craniotomy removed a right sphenoidal wing oedematous meningioma. Her recovery was uneventful.

The symptoms of headaches, nausea and vomiting are often encountered in pregnancy leading to complacency in the evaluation of neurological systems of pregnant patients. The consideration of an intracranial lesion at this time was extremely remote. In retrospect, it appeared that the liberal infusion of fluids unmasked the cerebral tumour. Her mood improvement after delivery could be explained by the recognized course of meningiomas in pregnancy. They tend to grow rapidly becoming symptomatic close to term. Progesterone receptors are present on meningioma tissue so that under the influence of progesterone they enlarge by fluid retention and enhanced vascularity; similar to that of fibroids. Delivery with fall in progesterone levels led to shrinkage of the neoplasm. Her recovery thereafter makes this hypothesis plausible and is in keeping with findings of others.

Even though this is the first case to be reported in the West Indies, it is worth noting that the above symptoms occurring especially in the absence of pre-eclampsia warrants a thorough neurological evaluation. Meningiomas in the Caribbean constitute 21% of all neurological lesions, they are particularly prevalent in the 31–50 year age group and females outnumber males 1.68 to 1.4. Given these statistics, its presence in West Indian women presenting with worsening neurological symptoms in late pregnancy should always be considered.

G.V. Narayansingh
S. Ramsewak
J.N. Cross
R.U. Adam
W. Kissoon
Faculty of Medical Sciences,
University of the West Indies and San Fernando General Hospital,
Trinidad, West Indies.

References

4. Char, C., Cross, J.N. & Persaud, M.D. Tumours of the central nervous system. Analysis of 476 cases observed at the University Hospital of the West Indies. West Ind Med J 1987, 36: 140–149.

Intra-operative seeding of tumour cells

Sir,

A 74 year old heavy smoker presented with chest pain, anorexia, clubbing and an irregular right lung mass on chest X-ray and computed tomographic scan. Bilobectomy was performed and the histology showed adenosquamous carcinoma. Within three months of the operation, two large subcutaneous masses appeared on both the anterior and posterior edges of the thoracotomy scar (Figure 1). Fine needle aspiration revealed malignant

Figure 1 Thoracotomy scar.
Cauda equina syndrome associated with ankylosing spondylitis in a female.
S. S. Kushwaha and V. L. Steinberg

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