Precocious puberty and non-accidental injury

True precocious puberty in boys is often associated with organic brain disease. Although trauma is sometimes listed as a cause of precocious puberty, in a review of recent reports no mention of such an association was found. A case is reported, therefore, of a boy who developed isosexual precocity after non-accidental head injury.

Case report

The boy was born in Britain to Pakistani parents. At the age of 6 weeks he was admitted to hospital because of convulsions. Bilateral clavicular fractures were noted and the cerebrospinal fluid was blood-stained and xanthochromic. Non-accidental injury was considered likely. The infant recovered and was discharged to the care of his parents. Ten months later he was readmitted, as bruising around his eye and many bite marks on his body had been noted. The skull x-ray film showed multiple fissure fractures and sutural diastasis. The infant was taken into the care of the local authority for a time. Sexual precocity was first noted during a routine clinic visit at the age of 4 years. Development of the penis and scrotum and of the pubic hair were consistent with advanced puberty (Tanner stage four and three, respectively). He was hyperactive and exhibited considerable sexual drive. There were no neurological abnormalities. The appearances of the skull x-ray film and computerised axial tomography brain scan were normal, excluding many cerebral causes of sexual precocity. There was a puberal type response of the gonadotrophins—both follicle stimulating (FSH) and luteinising (LH) hormones—to luteinising hormone-releasing hormone (LHRH), indicating an intracranial cause (see table).

The results of thyrotrophin stimulation and thyroid function tests were normal and there was no evidence of adrenal insufficiency or diabetes insipidus.

Results of LHRH test

<table>
<thead>
<tr>
<th>Time (min)</th>
<th>Serum FSH (IU/l) concentration</th>
<th>Serum LH (IU/l) concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>60</td>
<td>12</td>
<td>18</td>
</tr>
</tbody>
</table>

Comment

As precocious puberty and severe head injury are rare, it is reasonable to speculate that their association in this boy is not coincidental. The other cerebral causes of sexual precocity have probably been excluded by the results of the investigations but it is well known that a small hypothalamic hamartoma may produce precocious puberty in early life and remain otherwise silent for many years. Postmortem studies have shown that ischaemic or haemorrhagic lesions of the anterior hypothalamus, or both, are common after closed head injury, especially in young people. Endocrine sequelae after severe head injury might be expected. Transient or mild disturbances of anterior and posterior pituitary function after head injury are fairly common, but permanent upsets are rare, although hypothalamicism and impaired secretion of antidiuretic hormone have been described. Premature pubertal development might also be expected after severe head injury, yet reports of such an association were not found in a review of recent publications. Furthermore, a review of 96 cases of precocious puberty did not implicate head injury as an aetiological factor.

In this case there appears to be a clear association between severe non-accidental head injury and precocious sexual development, further extending the range of the effects of child abuse. Furthermore, as the cause of true precocious puberty is unknown in most cases, head injury (accidental or non-accidental) may possibly be an important aetiological factor.


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Department of Child Health, University Hospital and Medical School, Nottingham

J MCKIERNAN, MB, MRCPI, lecturer in child health

Shoulder-hand syndrome after laparoscopic sterilisation

The shoulder-hand syndrome is characterised by painful restriction of shoulder movements indistinguishable from capsulitis and pain, swelling, and autonomic disturbances of the hand. Many precipitants have been described but the condition has become steadily less common. We have seen this syndrome after laparoscopic sterilisation.

We report the case because this operation is widely performed and because it is difficult yet important to diagnose the syndrome early.

Case report

A woman aged 27 had a laparoscopic sterilisation in November 1977 because of psychosexual problems. Postoperatively she had pain in the right shoulder aggravated by respiration. The pain persisted but the pleuritic quality disappeared within a few days leaving a dull ache. The operative and postoperative periods were otherwise uneventful. Five weeks later she noticed radiation of the pain down the medial aspect of her right arm, and after a further week swelling of the right arm and hand to the extent that she could not remove her ring or put her glove on. There was pronounced non-pitting oedema of the right hand and 1½ inches (3-75 cm) difference in circumference between the upper arms. The right hand was warm and sweaty and the superficial veins were more prominent. Pain restricted movements of the right shoulder and the joints of the right wrist and fingers. Physical examination was otherwise normal. Axillary vein thrombosis was excluded by venography. Full blood count, erythrocyte sedimentation rate; radiographs of the shoulder, hand, cervical spine, and chest; protein electrophoresis; and rheumatoid and antinuclear factors were normal. The shoulder-hand syndrome was diagnosed on the clinical features and negative investigations.

Treatment with analgesics, physiotherapy, and short-wave diathermy resulted in a partial early response, but symptoms then persisted and did not respond to treatment with non-steroidal anti-inflammatory drugs or to a 12 weeks' course of low-dose prednisolone. Eighteen months after her initial presentation there was a sudden exacerbation of her symptoms with pronounced painful restriction of movements of the shoulder and hand joints. The symptoms responded promptly to large doses of prednisolone (60 mg/day) and remission was maintained when the dose was tapered rapidly. When last seen in June 1978 she had residual limitation of abduction at the right shoulder and hyperhydrosis and swelling of the right hand. X-ray examination of the right shoulder showed minimal degenerative changes and periarticular osteoporosis. Serial densitometry studies have shown no significant bone loss in the hand compared to the unaffected limb, and a 99mTc-methyl-diphosphonate scan of the shoulders was normal.

Comment

Short-lived shoulder-tip pain resulting from diaphragmatic irrita-

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