physical treatments hitherto considered to have a specific anti-depressant action are not given."

Our study was conducted on clinically selected patients from a fixed catchment area. Retrospective analysis of the rate of prescription of electroconvulsive therapy showed no alteration during the trial. The difference in outcome in favour of real treatment at both two and four weeks was greater in our study than in the Northwick Park trial. In our trial both the group of patients with depression and delusions and the group with depression and retardation were clearly responsive to electroconvulsive therapy, whereas in the Northwick Park study only the group with delusions showed unequivocal benefit. The group given placebo treatment had achieved a degree of recovery at six months comparable with that of the treatment group, but the recovery was considerably slower. Both treatment groups received a wide variety of treatments after the four weeks of the trial.

We believe that our data indicate that electroconvulsive therapy is an effective and rapidly acting treatment for severe depressive illness and that its use should be favoured in patients at risk of suicide because of the rapidity of response.

We thank the patients, relatives, nurses, and doctors of Leicester, whose cooperation and forbearance made this study possible. A particular debt of gratitude is due to the nurses and anaesthetists in the treatment centres and to the ward staff, who had to tolerate an additional uncertainty in caring for seriously ill patients. Financial assistance from the Trent regional research committee and the cooperation of the Leicester and Leicestershire District Health Authority enabled us to employ PN and SW-E during the study.

References


(Accepted 6 October 1983)

SHORT REPORTS

Effects of perforated appendicitis in girls on subsequent fertility

It has been stated that there is an increased incidence of infertility in women who had perforated appendicitis in childhood. On close examination, however, the published data on perforated appendix and infertility do not include sufficient evidence to prove that infertility was a consequence of perforated appendicitis in most patients. We studied fertility in a group of women who as children had been operated on for perforated appendicitis.

Subjects, methods, and results

Between 1957 and 1970 134 girls under 13 years of age underwent appendicectomy for perforated appendicitis at Our Lady's Hospital for Sick Children, Dublin. We succeeded in tracing 103 (77%) of them, of whom 99 were married. Their ages at follow up ranged from 21 to 39 years. We studied the 59 married women.

Age at appendicectomy had ranged from 14 to 13 (mean 9.1) years. The operative findings had included generalised peritonitis in 17, localised peritonitis in 29, pelvic peritonitis in six, and appendix abscess in seven.

<table>
<thead>
<tr>
<th>Case</th>
<th>Age at appendicectomy (years)</th>
<th>Age at follow up (years)</th>
<th>Duration of marriage (years)</th>
<th>Postoperative intraperitoneal abscesses</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8</td>
<td>21</td>
<td>6 months</td>
<td>Pelvic abscess</td>
<td>Taking contraceptive pill</td>
</tr>
<tr>
<td>2</td>
<td>9</td>
<td>25</td>
<td>8 months</td>
<td>Pelvic abscess</td>
<td>Not taking family planning precautions</td>
</tr>
<tr>
<td>3</td>
<td>7</td>
<td>30</td>
<td>8 months</td>
<td>Pelvic abscess</td>
<td>Taking contraceptive pill</td>
</tr>
<tr>
<td>4</td>
<td>7</td>
<td>30</td>
<td>10 months</td>
<td>Pelvic abscess</td>
<td>Not taking family planning precautions</td>
</tr>
<tr>
<td>5</td>
<td>8</td>
<td>21</td>
<td>1 year</td>
<td>Pelvic abscess</td>
<td>Miscarriage 7 months after marriage</td>
</tr>
<tr>
<td>6</td>
<td>12</td>
<td>21</td>
<td>2 years</td>
<td>Pelvic abscess</td>
<td>Uncooperative</td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>21</td>
<td>21 years</td>
<td>Pelvic abscess</td>
<td>Husband sterile</td>
</tr>
<tr>
<td>8</td>
<td>11</td>
<td>91</td>
<td>8 years</td>
<td>Pelvic abscess</td>
<td>Husband sterile</td>
</tr>
<tr>
<td>9</td>
<td>9</td>
<td>331</td>
<td>10 years</td>
<td>Pelvic abscess</td>
<td>Husband sterile</td>
</tr>
</tbody>
</table>

Drains had been used in seven patients. All had been given antibiotics after operation, and 11 had developed pelvic abscesses postoperatively. Fifty had one or more children. (Two unmarried women also had children.) There had been two cases of ectopic pregnancy, five of miscarriage, and one of hydatidiform mole in the 50 fertile women.

We studied in detail the nine women who were married but without children (table). Five had been married not more than one year: three were taking family planning precautions, and two desired pregnancy but had not yet conceived. The sixth patient, who had been married for two years, had miscarried seven months after marriage, indicating that she was able to conceive. The seventh patient, who had been married for two and a half years, answered the questionnaire but did not cooperate thereafter. The remaining two patients were investigated for infertility. The first had been married for eight and a half years. She had had four operations for subacute intestinal obstruction. A tubal patency test showed the tubes to be patent. Laparoscopy was not performed in view of peritoneal adhesions. Her husband was found to have a sperm count of less than one million. The other patient had been married for 10 years. Her husband had a sperm count of nine million. In view of the diagnosis of male sterility a tubal patency test and laparoscopy were not performed.

Comment

The belief that perforated appendicitis is associated with an increased infertility rate has been based on a few reports that do not
stand up to critical analysis. Powley reported that nine of the 15 women with a history of appendicitis either with a pelvic abscess or with pelvic peritonitis were infertile for two or more years. The average age at appendectomy in these 15 patients was 22-7 years with only one patient less than 20 years old. This paper does not state whether any of these infertile women had a history of pelvic inflammatory disease before they developed appendicitis and male infertility was not investigated, a factor that is responsible for 30-40% of all infertile marriages.

Thompson and Lynn reported that six of 37 women who had undergone appendectomies in childhood for perforated appendicitis were infertile. Detailed analysis of their results, however, showed that two of the six infertile patients had evidence of salpingitis. In the other four women infertility investigations were inadequate. Wiig et al reported that 14 out of 64 women with perforated appendicitis did not have children. Again information was lacking in this report on the duration of infertility, tubal patency, peritubal adhesions on laparoscopy, and husbands' fertility status.

The fallopian tubes may be affected by the initial inflammation in childhood perforated appendicitis with pelvic abscess or pelvic peritonitis. Nevertheless, this inflammatory process usually resolves completely with appendectomy and adequate antibiotic treatment and does not have the implications that salpingitis or endometriosis in the adult patient has. This is evident from our data, which refute the claim that perforated appendicitis in girls increases the incidence of infertility.


(Accepted 16 September 1983)

First and second degree atrioventricular block in oxpentyfylline overdose

Oxpentyfylline (Trental) is a vasodilator that is also used to reduce blood viscosity. It is in clinical use in South America and Europe but is still in the experimental stage in North America and Israel. We report a case of life threatening disturbance of cardiac conduction due to acute overdose of this drug.

Case report

A previously healthy 22 year old woman was transferred to our intensive care unit two hours after attempting suicide by taking 40-60 tablets (4000-6000 mg) of oxpentyfylline. On admission she was fully conscious and cooperative. Blood pressure was 120/70 mm Hg, heart rate was 108 beats/minute and regular, pupils were of normal size and reactive to light, and respiratory rate was 16/minute. Slight general hyperefexia was noted without other focal or general abnormal neurological signs. The abdomen was slightly tender without defence and the spleen and liver were not enlarged. The lungs were clear, and the chest radiograph was normal. Heart sounds were normal without murmurs.

A few minutes after admission extreme bradycardia was noted. An electrocardiogram showed bradycardia, 30-60 beats/minute, first and second degree atrioventricular block (Mobitz type II) (figure). This condition was treated with atropine 1 mg intravenously. Cardiac rhythm immediately increased to 90 beats/minute, but first degree atrioventricular block was still present. Laboratory tests showed: haemoglobin 12-6 g/dl, white cell count 11.6 x 10^9/L, thrombocytes 80 x 10^9/L, prothrombin time 45%, partial thromboplastin time 28 seconds, potassium concentration 27 mol(mEq)/L, and sodium concentration 139 mmol(mEq)/L. Glucose, blood urea nitrogen, and bilirubin concentrations and serum aspartate transaminase and amylase activities were all normal. Analysis of arterial blood gases showed arterial oxygen pressure 14-4 kPa (108 mm Hg), arterial carbon dioxide pressure 5-1 kPa (38 mm Hg), and pH 7-35. At that time we could not determine blood concentrations of oxpentyfylline.

She was transferred to our internal medicine unit treated with atropine 1 mg intravenous, 50 mg oxpentyfylline intravenous, and nasogastric tube. Crystalloid solutions with potassium supplementation were administered through a central venous line. Serum potassium concentration corrected quickly. Respiration was monitored and electrocardiography performed continuously. Five very short episodes of severe bradycardia similar to the initial one (30-40 beats/minute) appeared and disappeared spontaneously before treatment with atropine could be started. First degree atrioventricular block persisted until 16 hours after admission, when P-R interval returned to 0-16 seconds. In the first four hours, during which nausea and abdominal cramps persisted, she vomited several times. During her 24 hour stay in the intensive care unit she had episodes of severe excitation and was unable to sleep despite extreme tiredness.

Comment

Oxpentyfylline (Trental) is a vasodilator and reduces blood viscosity. The usual oral dose is 300-600 mg/day. It can also be administered by intra-arterial or intravenous injection or by infusion. It is well absorbed from the gastrointestinal tract and completely excreted by the kidneys within 24 hours. Oxpentyfylline is considered to be a safe drug. Symptoms of headache, abdominal cramps, and fibrinolysis have been reported, as have sleep disturbances and anginal pains at dose of 1200 mg. The drug may also stimulate insulin release. Our patient presented with some of these toxic effects and also hypokaliemia.

Bradycardia and first and second degree atrioventricular block were caused in our patient by the massive overdose of oxpentyfylline. To our knowledge, this toxic effect has not been reported before in either short term or long term use of this relatively new drug. The manufacturer had no records of other cases of overdose in man, and the available information from toxicity studies in animals gave no indication of likely features of overdose in man.


(Accepted 23 September 1983)