ACUTE PORPHYRIA WITH EPILEPTIFORM CONVULSIONS

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A number of cases of acute porphyria have been reported in the literature in the past few years and it is becoming increasingly clear that the disease is not as rare in this country as was previously thought, even in patients with no Scandinavian ancestry. The following case is of interest because several major epileptiform fits occurred without the development of other manifestations in the nervous system.

Case Report

A married woman, aged 23 years, was admitted to the North Middlesex Hospital on October 7, 1953, with a history of vague, poorly-localized attacks of abdominal pain over the previous three months. For one week before admission she had experienced far more severe pain situated in the right upper quadrant of the abdomen, associated with vomiting and marked constipation. The latter had been relieved by enemata but this made no difference to the pain. She had noticed nothing abnormal about her urine before, during or after these attacks.

Phenobarbitone had been administered intermittently from September 28 to the time she was admitted and four capsules of amylobarbitone sodium (3 grains each) had been taken on the four days prior to admission.

The patient had been quite well in the past, apart from an appendicectomy ten years previously. No record could be obtained of the pathology of the appendix. There was no relevant family history. On direct questioning, her husband stated that he had noticed some slight personality change over the previous three months: whereas she had been gay, vivacious and even-tempered she was now quiet and easily upset by small mishaps.

On the day of admission to hospital she had a major epileptiform attack. On arrival at the hospital she was mentally confused and, while being examined, had the typical tonic and clonic stages of an epileptiform fit without incontinence. Directly after the fit her corneal reflexes were absent and all other reflexes diminished. She was given 3 grains of phenobarbitone by injection. The reflexes returned to normal within a few minutes.

Examination revealed that the exposed parts of the body were sunburned from a recent holiday, but there was no other skin lesion. There was slight generalized abdominal tenderness but no rigidity, muscle spasm nor rebound tenderness. Scybalae were felt as high up the colon as the caecum. Her blood pressure was 154/114. She had enlarged and slightly tender glands in both groins and a brown-stained mucus discharge was found on vaginal examination. There was no abnormality detected in the nervous system and the urine was a normal colour containing no albumen, reducing substances nor ketones.

During the rest of that day and the following night she had four more fits, making a total of six in all. On the next day it was reported that the patient had passed red urine which became darker on standing. This port-wine coloured urine gave a strongly positive reaction to Ehrlich's aldehyde reagent.

All barbiturates were omitted after porphyrins were found in the urine and the fits ceased and did not recur. Her mental state rapidly returned to normal. The constipation and abdominal pain took much longer to clear and, for three weeks, she continued to have very severe attacks of pain, relieved by pethidine or Physeptone. In between attacks of pain she was cheerful and active.

Investigations

Chemical tests of the urine showed the presence of uroporphyrin and porphobilinogen. Twenty-four-hour specimens were examined by Professor C. Rimington who reported that the highest level of porphyrins excreted was 9.33 mg. per day. Pharmacological testing of urine and plasma showed no effect on the blood pressure nor respirations of a cat. The urines from the only near blood relatives of the patient, her mother, brother and grandfather, showed no abnormality.
of porphyrin or porphobilinogen excretion.
Examination of the blood revealed: Hb. 12.1 g.
per cent.; reticulocyte count less than 1 per cent.;
Wassermann and Kahn reactions negative; serum
sodium 280 mg. per cent., or 122 m.eq. per litre;
serum alkaline phosphatase 5.5 King-Armstrong
units; Thymol turbidity 3.0 units; total plasma
proteins 6.05 g. per cent.; albumen 4.35 g. per
cent. and globulin 1.7 g. per cent.

The report on the electroencephalogram taken
on November 17 was as follows: 'The E.E.G. is
mildly abnormal. A low medium voltage alpha-
rhythm is dominant but tended to be unstable in
frequency and very mild dysrhythmia is seen at
times. There is no significant asymmetry nor
focal abnormality, nor disturbance on over-
breathing. This record is non-specific and only
just outside normal limits, but compatible with
the epileptic diathesis. The fits may well have
occurred in response to physiological stresses
while in hospital.'

Progress
After three and a half weeks in hospital the
patient was discharged home symptomless, al-
though still passing some porphyrins in the urine.
Her basal blood pressure was 146/94. Since dis-
charge she has continued to have attacks of diffuse
abdominal pain, extreme constipation and vomit-
ing, twice necessitating admission to hospital.
During these attacks the urine has always been
dark red. The pain, which usually seemed to be
worse before menstruation, was relieved when the
period started. On one occasion she experienced
sub-sternal pain relieved by amyl nitrate. No
further fits have occurred and there have been no
abnormal neurological findings, although on one
occasion it was reported that her right arm was
twitching.

Discussion
It has been pointed out by Gray, Rimington and
Thomson (1948) that the so-called acute por-
phyrias are really chronic metabolic disorders
subject to severe acute episodes. The patients
often experience long asymptomatic phases during
which the disease can only be detected by special
tests carried out on the excreta. Certainly in this
case, although we have no record of porphyrins
passed before the symptoms began, porphyrins
were still present in the urine after discharge from hospital, although the patient was symptom-
free. The acute manifestations of the disease
appear either spontaneously or as a result of the
administration of certain drugs (Petrie, 1948). In
the absence of any effective specific treatment, it
is important that all possible precipitating drugs
should be considered. Drugs which are impli-
cated are sulphonamides (Dudley Hart and
Collard, 1950), sulphonial, methyl sulphonial (Hill,
1952), barbiturates, alcohol and arsenicals (Do-
briner and Rhoads, 1940). Of these, barbiturates
have been cited most often. Abrahams, Gavey
and Maclagan (1947) report a case of a woman
with the disease who was given a course of sul-
phonamides with Soneryl nightly for some time and
later Nembutal. After this she had a fit and
developed muscular weakness. It was thought that
this may well have been due to the bar-
biturates. Discombe and D'Silva (1945) had a
male patient, aged 19, with porphyria who had
six relapses during a period of three years, in
some of which there were fits. During two of
the relapses he was given phenobarbitone for
periods of several weeks, but the drug did not
seem to affect the disease adversely. In the case
reported here no barbiturates had been given
prior to the onset of abdominal pain, but the con-
vulsions occurred after phenobarbital and amylo-
barbitone sodium had been taken and ceased
when all barbiturates were stopped, thus some
association with the administration of barbiturates
seemed indicated. Waldenström (1940) advised
the restriction of sedative drugs to opiates and this
patient has been warned to take no barbiturates
and no drug of which she is not sure of the
nature. The disease followed the typical three
phases described by Petrie (1948). Firstly, there
was a prodromal phase with some mental symp-
toms. A marked loss of weight is often a feature
at this stage but this patient did not report any
change. Secondly, the phase of abdominal symp-
toms occurred. In this case, as often happens,
abdominal pain was so severe that the patient was
sent to hospital as an acute abdominal emergency.
Dark urine usually appears during or before this
stage and there is often some hypertension. The
third phase consists of symptoms and signs refer-
able to the central nervous system. It is interest-
ing to note that convulsions alone occurred and
the patient presented none of the other more
common manifestations of nervous system in-
volvelement, namely, muscular weakness and
paralysis, wasting, absent reflexes or altered
sensations.

Summary
A case of acute porphyria occurring in a young
and previously healthy woman is reported.

In addition to abdominal symptoms and dark
urine the patient presented with major epilepti-
form fits following the administration of bar-
biturates, but no other neurological symptoms or
signs. No further fits occurred after barbiturates
were stopped.
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