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Medical Memoranda

Acute Iatrogenic Hypothyroid Psychosis

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It has been known for many years that hypothyroidism can cause psychosis. Sir William Gull (1873) noted mental changes in his hypothyroid patients, and Asher (1949) drew attention to the prevalence of "myxoedema madness." The kind of mental illness shown is variable, and of a group of 18 patients described by Tonks (1964) five showed essentially organic features, and five schizophrenic, six affective, and two mixed pictures. The duration of mental symptoms in this group varied from a few days to eight years.

We describe here a very acute psychotic illness of mixed organic/schizophrenic type, apparently precipitated by carbimazole-induced hypothyroidism in a young thyrotoxic woman.

CASE HISTORY

A 22-year-old married woman was referred to the medical outpatient department at West Middlesex Hospital with obvious clinical thyrotoxicosis. She had a large goitre, pronounced exophthalmos and lid lag, and a tachycardia of 130. Her protein-bound iodine was 12.9 µg./100 ml.

She was treated with carbimazole 45 mg./day, and when she was seen in the outpatient department two months later she was noted to be clinically euthyroid.

Three weeks after this visit she was admitted as an emergency to Springfield Hospital. On admission she was very disturbed and presented a rather bizarre mental state in that her level of consciousness varied between semi-stupor and wild excitement. She had auditory hallucinations and thought that she had killed her baby and was being spied on by the police. On the day after admission she cut both her wrists with broken glass, and for a while showed *flexibilitas cerea*.

On physical examination she had a dry skin with a rounded facies and malar flushing. Exophthalmos (but no lid lag) was still present, and she had a large goitre with an easily heard bruit. Her pulse varied widely between 70 and 110, and there was obvious slowing of relaxation of ankle and knee jerks.

Investigations showed a protein-bound iodine of 1.8 µg./100 ml., serum cholesterol 191 mg./100 ml., haemoglobin 14.8 g./100 ml., and an E.S.R. of 7. Wassermann reaction and Kahn test were negative.

There was no family history of mental illness. Her premorbid personality was good, and, apart from a short episode of depression after the birth of her baby 14 months previously that had rapidly

responded to imipramine given by her general practitioner, she had no previous psychiatric history.

Treatment consisted of stopping carbimazole, and no thyroid replacement therapy was given. She received trifluoperazine 30 mg./day and orphenadrine 300 mg./day, and was twice given electric convulsion therapy in view of her severe clouding of consciousness.

Within 10 days her mental state had returned to normal, she was clinically euthyroid, and her protein-bound iodine had risen to 4.6 µg./100 ml. After a month she again showed clinical signs of hyperthyroidism, so that carbimazole in a dose of 15 mg./day was restarted. Follow-up for nine months showed no recurrence of psychiatric symptoms, and she has remained euthyroid on the small dose of carbimazole.

COMMENT

In most cases of psychosis associated with hypothyroidism, the latter condition has been present for some time (Asher, 1949). Psychotic reactions are uncommon in thyrotoxicosis (Greer and Parsons, 1968), and the above patient had shown no real evidence of disturbance in her thyrotoxic phase. It is true that she received specific "antipsychotic" treatment with trifluoperazine and electric convulsion therapy and did not receive thyroid replacement therapy, thereby not fulfilling Tonks's (1964) criteria for defining hypothyroid psychosis. Also, she had a relatively rapid pulse throughout her acute illness, though bradycardia is by no means invariable in hypothyroidism (Cecil and Loeb, 1959). Nevertheless, she became acutely psychotic when her thyroid function fell below normal, and her rapid recovery and continued psychiatric normality without specific treatment indicates that this was a psychotic illness of mixed organic/schizophrenic type precipitated by a very short period of drug-induced hypothyroidism.

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