

## PRIVATE PRACTICE FORUM

### Myxedema Psychosis — Insanity Defense in Homicide

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#### ABSTRACT

In the course of a hypothyroid psychosis, a young man committed murder. He was later judged to be not guilty by reason of insanity, although he was clearly sane at the time of his trial. Diagnostic, treatment and longer range management problems are discussed. (J Clin Psychiatry 41:316-318, 1980)

Clinicians know that many psychotic states are cyclic in nature or can be cured symptomatically by non-psychiatric treatment. In any legal process, and perhaps more so in a case of homicide, a judge and jury may find it difficult to accept the fact that the accused was insane at the time of the offense when they can clearly see that he is obviously sane at the time of the trial. They are more likely to be skeptical of an insanity plea when the emotional disorder that the accused claims, appears to have cleared without obvious psychiatric treatment.

In a hypothyroid state, a person can become so emotionally disturbed that he commits a serious crime, even murder. Thyroid replacement alone may then restore the subject to normal physical and emotional health so that the formerly psychotic subthyroid person becomes emotionally competent again with thyroid maintenance. In a recent homicide trial, a clearly demonstrable myxedema psychosis was the basis for the successful insanity defense of a man who was nonpsychotic at the time of the legal proceedings.

Under the law of most nations, an accused person cannot be judged guilty of a crime if it can be shown that he was legally insane at the time of the offense. In most states, the presence of legal insanity is decided by the criteria of the M'Naghten rule or some modification—the defendant suffers from a defect of reason due to disease of the mind, such that he did not know the nature and quality of his act or did not know that what he was doing was wrong. In this case, the sanity of the accused was judged under the M'Naghten criteria.

#### CASE HISTORY

At the time of his trial for homicide, the accused was 31 years old and unmarried. His history was obtained from previous medical records, from his family and from the patient himself. He was the only son and eldest of three children. During his childhood, his father travelled frequently so that the patient was in 12 schools before he eventually graduated high school. When he was five

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years old, his parents divorced: from that time he was stated to have been a "management problem" at home.

The accused was first seen for psychiatric evaluation at age 13½, because he was "doing poorly in school." His difficulties then were diagnosed as being "a reaction to a broken home." Just after he was 14 years old, the mental health center psychiatrist saw him again and noted that he was "nervous as ever" and "plucking continually at his eyebrows." Two months later, with symptoms of extreme fatigue, he was hospitalized and hyperthyroidism was diagnosed. He was started on maintenance propylthiouracil and phenobarbital. Several months later he was stated to be "free of depression."

When the patient was almost 17, two thirds of his thyroid was removed surgically. In the first one to two months postthyroidectomy, it was noted "he became calmer." At that time, he was six feet five inches tall and his weight rose from 155 to 195 pounds. In the following year, blood tests apparently showed that the young man was suffering from hypothyroidism. He was started on thyroid 1 grain daily, rising eventually to a maintenance level of 3 grains daily.

The patient did not finish his first year of college but joined the armed services, only to be honorably discharged when the army physicians learned about his thyroid status. He then worked for several years as a merchant seaman. When he was 26 years old, for two months he was unable to get his maintenance thyroid medication. During this period, his weight rose and his energy fell and he recognized that he had become depressed. When he resumed his thyroid medication, his weight went down again but his temper, in his words, "became more explosive." Four years later, he consulted a physician because he was feeling "bummed out," "suicidal" and worried "where his head was." He felt that he was exploding emotionally over what he knew were only trivial situations. At that time, he was taking sodium levothyroxine 0.1 mg three times a day. Blood testing showed serum triiodothyronine uptake of 41% (normal 35-45%) and serum thyroxine RIA 6.0 micrograms per 100 ml (normal 4.5-11.5). After these tests, the patient believed that he was told that his thyroid status was normal and, accordingly, he stopped taking thyroid.

During the next four months, the young man lost several jobs in succession because, in his words, "I kept klutting things up." He became awkward, uncoordinated and lacked energy. He knew that he was increasingly suspicious but he believed, "People are laughing at my inadequacies."

Three months prior to the homicide, the patient impulsively sought admission to the psychiatric unit of a general hospital. According to the hospital records, he

complained, "I feel like blowing myself away," and he was worried that "his anger may explode." He was tired, depressed and "little things would set him off." On examination, no physical disability could be demonstrated but his thyroidectomy scar was noted. Psychiatric examination showed no gross mental disturbances and partial psychological testing gave him a verbal IQ 124. When he was in hospital, no medication was prescribed and he was treated primarily with milieu therapy. A nurse's note during his stay points out that the patient "felt someone was watching me. That's a weird feeling." After one day in hospital, the patient requested his discharge and left after five days with the final diagnosis "adjustment reaction of adult life."

In the weeks following this brief hospitalization, the subject became increasingly suspicious. He avoided strangers and felt that even his friends were "waiting for me to suicide." He sensed that he was "coming completely apart" and that people were talking about him. Gradually he began to hear voices which commented unfavorably on his sexual capabilities. He started to believe that "people wanted to do a number on me" and were planning to rape him homosexually. He thought that "people were playing games with my mind." One day he returned home to find a friend sleeping peacefully. Suddenly "everything came together," and it became obvious to him that this friend was the origin of all the bad thoughts and messages he was experiencing. He struck and killed the sleeping man.

After his arrest, the patient was judged to be incompetent to stand trial and was transferred to a local forensic psychiatry unit with the diagnosis of paranoid schizophrenia. The pre-trial psychiatrist, however, suggested that the accused might have a myxedema psychosis.

In the two months following his admission to the forensic psychiatry unit, the patient, in his opinion, went "completely crazy." He lived "in his own crazy world," heard voices constantly talking to him and about him and felt very depressed and very guilty. He had a constant fear of being raped and reacted violently towards any male inmate who approached him. On thiothixene 20 mg twice daily, his behavior became less disruptive, his voices were "reduced" but his paranoia continued. When his family visited him, they noted his thick lips and watering eyes and they found that he was rambling incoherently, laughing inappropriately and was physically and mentally slow. He complained to them that the cold was bothering him and that he was severely constipated. He found that he had difficulty hearing people distinctly.

Two months after admission to the forensic psychiatry unit, blood testing again showed marked hypothyroidism. His blood triiodothyronine level was 29 nanograms per 100 ml (normal 80-220) and thyroxine by RIA was below 1.5 micrograms per 100 ml (normal 4.5-11.5). He was started on sodium levothyroxine 0.1 mg daily and all psychotropic medication was discontinued. On this thyroid medication alone, within two months the patient "got it together" and was "able to think in a straight line." His hallucinations disappeared, his marked paranoia became much less and he felt more

depressed about what had happened to him. After 12 weeks of thyroid replacement, his blood triiodothyronine was 94 nanograms per 100 ml and his thyroxine 6.3 micrograms per 100 ml, both within normal limits. Based on his improved emotional status, he was then judged competent to stand trial for homicide.

#### COMMENT

Since the first description of myxedema by Gull<sup>1</sup> and Ord,<sup>2</sup> emotional symptoms have been repeatedly described as part of the syndrome of myxedema. Whybrow and Hurwitz<sup>3</sup> point out the marked cognitive difficulties seen in the seven hypothyroid patients they evaluated and emphasize the frequency and severity of depression they saw in their patients. Asher<sup>4</sup> in his 14 cases of "myxedematous madness" and Easson<sup>5</sup> in 19 cases of "myxedema with psychosis" could find no specific myxedema psychosis but both pointed out that paranoia was commonly present as part of myxedema psychosis. Easson<sup>5</sup> suggested that emotional disturbance tended to occur when body homeostasis was changing rapidly and noted that a psychosis could be precipitated or made worse in myxedematous patients when they were started on thyroid replacement. This finding has been noted by other authors (Davidoff and Gill)<sup>6</sup> and can be recognized frequently whenever lengthy case reports of myxedema patients are given.

The accused has a history that indicates emotional difficulties due to preoperative hyperthyroidism and hyperthyroidism due to excessive medication and recurrent psychiatric symptoms, eventually of psychotic intensity, due to repeated hypothyroid states. Thyroid replacement alone restored the patient to emotional competence.

#### CASE HISTORY (continued)

At the time of the subject's first trial for homicide, the jury could not agree on a verdict. As the prosecution pointed out, the behavior of the accused preceding and following the homicide was forceful and decisive, very unlike the numbed apathy that they were hearing described as part of severe clinical myxedema.

At the second trial, the defense witnesses emphasized that the emotional disorder in myxedema was due to the change in body homeostasis. The jury were reminded that emotional difficulties tended to occur in "normal" women during certain periods of the menstrual cycle, at the menopause or as a response to taking birth control pills. It was pointed out that the disruptive emotional symptoms in myxedema were likely to occur when the patient was becoming myxedematous, while severe myxedema would indeed tend to immobilize the person affected. This symptom progression was compared with elderly people who were becoming senile: as senile changes developed, these old folks frequently became paranoid, sometimes actively aggressive but, when senility was profound, then they were immobilized.

The verdict at the second trial was not guilty by reason of insanity and the young man was committed to the state forensic psychiatry unit.

**COMMENT**

On his acquittal by reason of insanity, the young man agreed with his commitment to the forensic psychiatric hospital because he continued to feel very guilty and thought that he should be punished for the homicide. However, it should be noted that the professional witnesses at his trials and the hospital doctors agreed that he was no longer legally insane or clinically psychotic. Though nonpsychotic, he is still hospitalized in a forensic psychiatry hospital.

The patient feared that his aggressive homicidal behavior might recur and was scared of his potential for future violence. This question was not raised at the trial but is a valid concern. The subject has a long history of explosive behavior which in part may be due to thyroid imbalance due to hyperthyroidism or hypothyroidism. Each known episode of thyroid withdrawal led to increased suspiciousness and depression. The patient stated that he was thankful to be locked up following the trial but at some point the question of his discharge will have to be considered.

The early signs of myxedema psychosis were not recognized in this patient in spite of a clear history of

thyroid removal and thyroid replacement and an obvious thyroidectomy scar. The patient correctly anticipated that he was likely to explode and he had sought assistance. As Asher<sup>4</sup> points out in his clinical article, "Myxoedema is one of the most important, one of the least known and one of the most frequently missed causes of organic psychoses."

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