

THE QUESTION OF HISTOPATHOLOGICAL CHANGES
IN THE TESTES OF SCHIZOPHRENICS.

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In determining the parameters of structure and function in the group of patients designated as schizophrenic, increasing stress has been laid on endocrinal function. A great deal of work is being done to clarify adrenocortical function. We are about to begin similar studies in respect to thyroid responsivity, using radioactive iodine as an indicator. The present report deals with a third aspect of the endocrine system.

The present study was undertaken to relate testicular changes such as those reported by Hemphill, Reiss and Taylor to adrenocortical and thyroid responsivity.

SUBJECTS.

Testicular biopsies were performed on the entire population (both chronic and acute cases) of the research ward at the Worcester State Hospital, with the exception of a single case.

The seventeen patients constituting the chronic part of the population had been selected from the general hospital population on the basis of the following criteria :

1. Diagnostic staff designation of the patient as schizophrenic at the time of admission.
2. Independent and unanimous confirmation, after three or more years of continuous hospitalization, of this diagnosis by the psychiatrists* of the research service.
3. Age below 40 and free of organic illness.
4. Sufficiently tractable to co-operate in ordinary test procedures.

The ten patients comprising the acute group (tested within one month of admission) were :

1. All first admissions below the age of 40 and free of organic illness.
2. Diagnosed as schizophrenic by the hospital staff. The diagnosis of schizophrenia was concurred in by the psychiatrists of the research service, although in a few cases other possible diagnoses could have been entertained, and thus the patients are by no means all of the "classical" schizophrenic type as are the chronic patients.

* Diplomates of the American Board of Psychiatry and Neurology or Diplomates of Psychological Medicine.

In this latter group two patients were eliminated. In one patient there was endocrinopathy, and in the second case operative permit was refused.

The distribution of subtypes of schizophrenia was as follows: paranoid 7, catatonic 4, hebephrenic 4, other types 8, and unclassified 2.

METHOD.

The biopsies were performed according to the technique of Charny. The sections were fixed in both Zenker's solution and formalin. Paraffin sections were stained with hemotoxylin and eosin, Mallory's connective tissue stain and phosphotungstic acid haemotoxylin.

RESULTS.

Except for slight focal inflammations in two cases there was not a single biopsy that could be regarded as pathological. Without exception all specimens had tubules, tunica propria and Leydig cells within the normal limits. Mature sperm were found uniformly and, except in one of the cases with inflammation, they also appeared to be present in normal quantity.

In about one-third of the cases there was an occasional sclerosed tubule or some thickening of the basement membrane. In no case did this exceed the frequency of such findings in entirely normal testes of the same age group.

Sperm counts could not be done routinely because of religious proscription or the patient's unco-operativeness. In the one chronic case tested the count was 160 million per c.c.

DISCUSSION.

The deviation from results obtained by Hemphill, Reiss and Taylor cannot be attributed to a difference in patient population, since the present group appears to include all types except their "chronic deteriorated."

Some of the defects illustrated and described by Hemphill *et al.* can be found in isolated areas of about a third of our cases. In the light of eight years' experience of one of us (R. S.) in examining testicular biopsy specimens at the Massachusetts General Hospital and elsewhere, it can be definitely asserted that neither the frequency nor the degree of such changes are any greater than would be expected in a similar group of entirely normal, potent males.

The absence of a single patient that had any extreme testicular defect such as Hemphill, Reiss and Taylor describe in over half their cases suggests that some other factor influenced their results. Perhaps the war-time diet or genetic factors or a higher frequency of mumps orchitis altered the picture.

The difference reported by Hemphill, Reiss and Taylor between the schizophrenics and the other patients is statistically significant at the 1 per cent. level. We are at a loss as to how to account for this in view of our own results.

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