

TABLE II.

The average weight of the adrenals in the pigmented groups expressed as a percentage of the average weight of the glands as found for the experimental albinos.

Group	Male	Female
Albino F ₂ -F ₄	100	100
Pigmented F ₂ -F ₄	109.3	107.6
F ₁ generation (pigmented)	103.1	113.9

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Parathyroid extirpation in the cat.

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A survey of the literature dealing with experimental parathyroidectomy in the cat shows amazing discrepancies. Some results are so clear cut that there can be no question as to the conclusions drawn from them while other experiments give quite conflicting data. In certain forms, *viz.*, the dog, there are uniform results after extirpation of these glands and these have led to the conclusion that in this form a complete parathyroid extirpation is fatal.

In order to clear up some of these discrepancies before proceeding with physiological studies which are now under way upon the cat it was deemed advisable to complete a large number of parathyroid extirpations in order that a consistent resurvey of the problem could be obtained. More than fifty parathyroidectomies have been performed at the Osborn Laboratory. These cases have been carefully studied and supplemented with anatomical observations.

A microscopic examination of the glands was made at the time of operation. The glands were placed in Ringer's solution and the parathyroids dissected away from the thyroid under the high power of a binocular microscope. A small vascular rete is associated with the parathyroids and assists in their rapid identification.

In the cat the typical number of parathyroids (4) is not invariably present and the glands, especially the internals, vary considerably in size and position. The internal parathyroid may occur anywhere upon the dorsal surface of the thyroid or so deeply imbedded in its tissue that it can be found only in section. It may be absent on one side. The external parathyroids were more constant in their location but vary in size and in number. In several cases the gland was represented by several minute masses. Accessory glands were present in 35 per cent of the cats and these were most frequently found in the cervical lobe of the thymus.

In our first experiments, the operation was considered as complete when the four glands were located and identified. The animal was placed under observation and if tetany did not develop within four days, a second operation was undertaken in which the entire neck region was explored for parathyroid tissue. All tissues removed were carefully examined for parathyroid tissue. In the course of the second operation the cervical lobes of the thymus were removed and occasionally the operation was extended into the superior mediastinum. Accessory glands were found in the cervical thymus in so many cases that the original field of operation was enlarged so as to include all of this tissue.

In the large majority of cases, death from tetany ensued after this operation. Careful autopsies supplemented with the study of sections failed to reveal any parathyroid tissue remaining. In contrast to this, whenever an animal survived and showed no signs of tetany, parathyroid tissue was found at autopsy.

Typical tetany symptoms always occurred after complete extirpation of the parathyroids. The symptoms are of two types, a violent type in which the body is subject to tremors and convulsive attacks and a depression type in which there are no convulsive attacks. Either type is characteristic after parathyroid extirpation. A survey of our fifty cases showed that the violent type of tetany predominates as the cause of death.