Volume 2 | Issue 1 Article 4

1939

A Fibroma of the Hypophysis of Canis familiaris

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ONLY a few references have been made in the literature concerning hypophyseal tumors in domesticated animals. Nieberle states that tumors of the hypophysis may occur in domesticated animals, and that adenomas are the predominating type. He does not give any indication, however, where these tumors are more fully described, nor in what species they occur. It is because of this situation that the authors feel a description of a fibroma involving the pituitary of a fifteen year old Boston Terrier would be highly beneficial to report.

Fig. 1

Before autopsy the dog showed symptoms of vertigo, vomition, blindness in the right eye, impaired vision in the left eye, and a simple polyuria.

The specimen weighed 9.5 kilograms, and the hypophysis weighed 950 milligrams. Normal dogs at fifteen years of age (2) usualy have pituitaries weighing

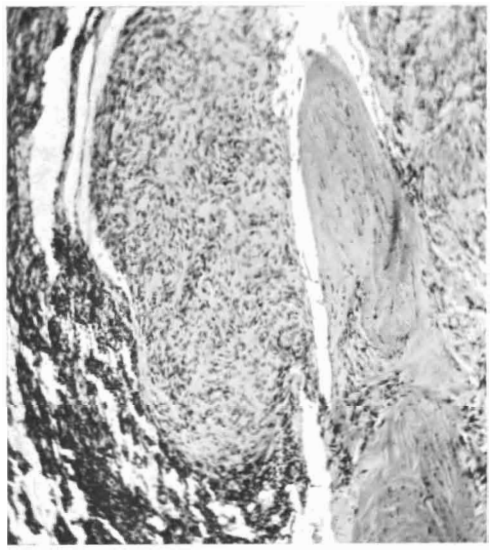

Fig. 2

0.0071 milligrams per kilogram of body weight, but in this case the gland's weight equaled 0.995 milligrams for every kilogram of body weight, which is about fourteen times that found in normal animals of the same age. The hypophysis measured 1.5 x 1 x 1 centimeters. Marked depressions resulted in the floor of both cerebral hemispheres because of the pressure exerted upon them by the tumor which was actually escaping the confines of the sella turcica by extending over the lateral walls.

Gross Structure

Grossly, the hypophysis was an irregular mass with a heavy dura mater covering. The growth possessed a greyish white

color, firm consistency, and adhered to the posterior portion of the sella turcica and cerebral hemispheres.

Figure 2 shows a very dense mass of connective tissues passing into the tumor which was located in the pars nervosa. This dense tissue also passes along one edge of the pars glandularis which is nothing more than a small strip of tissue on one side, anterior to the tumor mass. The pars intermedia is only present in the form of small accumulations of cells adjacent to what seems to be the remains of the hypophyseal cleft. The above mentioned penetrating connective tissue resembles white collagenous tissue in its composition and appears to have its origin from the dura mater covering the pituitary in the posterior portion of the sella turcica. Fibers from this mass project into the tumor and also into the distorted pars glandularis.

Tumor Composition

What seemingly was once the pars nervosa, is composed almost entirely of fibroblasts but occasionally cells typical of the normal Posterior lobe can be identified. To the right in figure 1 the composition of the tumor is illustrated. Scattered throughout the tumor are small accumulations of large densely packed cells. Where the neoplasm is more loosely arranged the fibroblasts present elongated cell processes. Intercellulular stroma is very abundant about the blood vessels.

The tumor does not involve the pars glandularis (seen at the left in figure 2). Both the basophilic and eosinophilic constituents of the par glandularis are indentifiable microscopically.

This neoplasm has been diagnosed as a fibroma involving the pars nervosa of the hypophysis on the basis of the presence of a capsule, fibroblasts, connective tissue and absence of mitotic figures.

References

1. Lehrbuch der Speziellen Pathalogischen Anatomie der Haustier. Dr. Med. Vet. Karl Nieberle and Dr. Med. Vet. Paul Cohrs Jena Verlag von Gustav Fisher, 1931, p715.
2. From data compiled by the Department of Veterinary Anatomy, Iowa State College.

Vibrio fetus Infection

Last summer an aborted bovine fetus was submitted to the Diagnostic Laboratory for diagnosis. The age of the fetus was estimated at three months. The practitioner submitting the specimen suspected a Brucella infection.

The peritoneal cavity contained a quantity of bloody fluid. This fluid and the stomach contents were examined microscopically by making wet preparations. No organism or mold mycelia could be distinguished. The stomach contents and peritoneal fluid were cultured on potato agar ordinarily used for growing Brucella. The cultures were incubated anaerobically at 37°C. by placing them in a sealed jar and replacing the oxygen with illumination gas. After 48 hours incubation very minute, dew drop, colonies could be seen. Stained smears of the colonies showed gram negative spiral shaped organisms morphologically identical to *Vibrio fetus*. Transfers to serum agar and serum broth were incubated anaerobically.. Colonies appeared on serum agar in 48 hours, however, growth remained scant. Broth cultures examined at 48 hours in a hanging drop preparation showed the organism to be highly motile, a characteristic of *Vibrio fetus*. On the basis of the history and above findings a diagnosis of *Vibrio fetus* infection was made.

The organism was kept at room temperature for five weeks without losing its motility. Cultures sealed with paraffin and kept in the refrigerator were dead in three weeks.

This case is an example of infectious abortion in cattle not caused by *Brucella abortus*, as it is so often assumed. It is a condition which must be kept in mind when dealing with breeding troubles in cattle.

Economics

The only two who can live as cheaply as one are a flea and a dog.