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Effect of Lactogenic Hormone Injections on the Crop Gland of the Hypophysectomized Pigeon.*

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In a single case of a hypophysectomized ring dove, Riddle, Bates and Dykshorn¹ reported an increased weight of the crop gland to the extent of about 300%, with secretion of "crop-milk" following 4 daily injections of prolactin. Observations in our laboratory have shown that the injection of purified lactogenic hormone, galactin, immediately after hypophysectomy in cats, rats and guinea pigs, failed to initiate or prevent the rapid cessation of lactation. It is of interest, therefore, to determine whether galactin would cause the proliferation and the secretion of "crop-milk" of the crop glands of hypophysectomized pigeons. Common pigeons were used. The operation, which was carried on by the oral or parapharyngeal route, was well tolerated and the high post-operative mortality was minimized by the routine injection of glucose solution. In all instances, the injections of lactogenic hormone were started in 2 to 3 days after hypophysectomy, by the intramuscular or intradermal route for 4 consecutive days, the birds being sacrificed 24 hours after the last injection.

Of a total of 28 operated pigeons, 16 were found to be completely and 12 incompletely hypophysectomized at autopsy. The crop glands of the completely hypophysectomized birds which received galactin in amounts ranging from 4 to 10 mg. intramuscularly or intradermally over the crop sac all showed no evidence of proliferation. Three of the incompletely hypophysectomized birds which received 5 mg. and 2 which received 10 mg. of galactin intramuscularly, showed proliferation of both crop glands with an average rating of plus 2.6 and 1.25, respectively, while 7 which received 4 mg. intradermally over the crop sac showed proliferation only in the gland immediately above the site of injection. The response of these glands was rated as averaging plus 2 (2+). From these observations it was concluded that the purified lactogenic hormone, galactin, is incapable of causing the proliferation of the crop glands of hypophysectomized pigeons.

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¹ Riddle, O., Bates, R. W., and Dykshorn, S. W., *Am. J. Physiol.*, 1933, **105**, 191.