

Long-term effects of hypothalamic lesions on the pituitary and its target organs in the killifish *Fundulus heteroclitus*. I. Effects on the gonads, thyroid, and growth

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In three experiments a total of 23 sham-operated and 63 brain-lesioned killifish were maintained for 12½-16½ weeks under constant environmental conditions, with regular feeding. Regression of the testes and pituitary gonadotropes, seen in 13 fish, was correlated with lesions in the parvocellular region and/or tract of the nucleus lateral tuberis pars anterior (NLTa). Marked hypertrophy of the thyroid and pituitary thyrotropes, seen in nine fish, was associated with severe lesions of the nucleus anterior tuberis (NAT). A highly significant increase in growth rate, seen in four fish, was correlated with lesions in the nucleus preopticus (NPO), but there was no change in the pituitary somatotropes. Increased appetite, resulting from the presumed destruction of a satiety center, is a possible explanation. Copyright © 1981 Wiley-Liss, Inc., A Wiley Company