

NTP Nonneoplastic Lesion Atlas

Pituitary Gland, Pars distalis – Necrosis

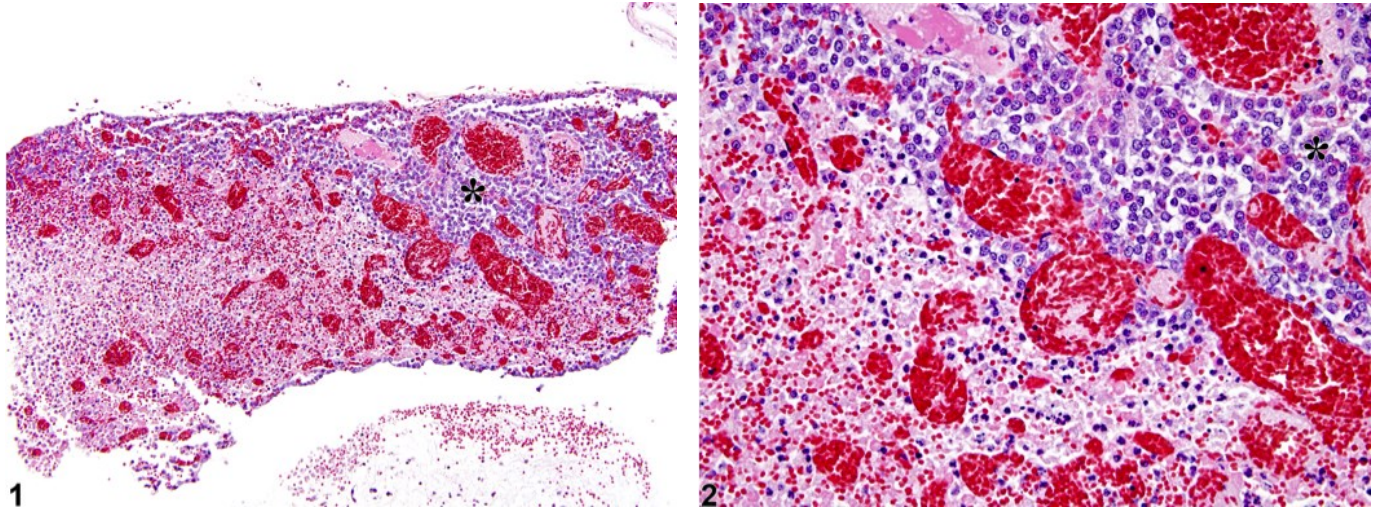
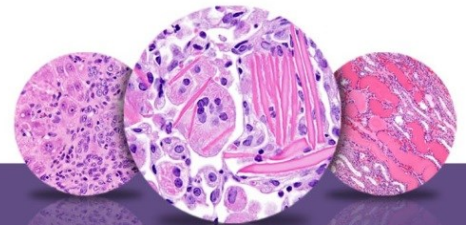


Figure Legend: **Figure 1** Pituitary Gland, Pars distalis - Necrosis in a female F344/N rat from a subchronic study. Loss of cellular detail is present in the area of necrosis with normal pituitary present in the upper right (asterisk); vascular congestion is present in both areas. **Figure 2** Pituitary Gland, Pars distalis - Necrosis in a female F344/N rat from a subchronic study. Higher magnification of Figure 1 focuses on the loss of cellular detail in the necrotic area and the normal pituitary.

Comment: Necrosis of the pars distalis has been associated with mechanical or other interruption of the blood supply from hypophysial portal vessels or primary arterioles. Temporary recurring or persistent occlusive vasospasm has been linked to necrosis of the anterior pituitary. The caudal part of the pars distalis may be spared, and the necrotic areas may be sharply demarcated. Vascular congestion can occur in both necrotic and nonnecrotic areas. Increased intracranial pressure with circulatory collapse and destruction of the pituitary stalk has been reported in human cases of pars distalis necrosis. Chemicals administered intravenously can cause vasoconstriction and subsequent necrosis of the pars distalis. Hypotension and vasospasms of hypophysial arteries following severe postpartum hemorrhage in women (Sheehan syndrome) is associated with necrosis of the pars distalis.

Recommendation: Necrosis of the pars distalis of the pituitary should be diagnosed and graded whenever present. The pathology narrative should describe morphologic features and any connection with intracranial changes that might be associated with pituitary necrosis. Other endocrine and reproductive tissues should be examined for potential secondary changes related to pituitary necrosis.



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Associated lesions such as inflammation and hemorrhage should not be diagnosed separately unless warranted by their severity, but otherwise may be described in the pathology narrative.

References:

Carroll R. 1967. The pathogenesis of pituitary and adrenal necrosis. *Ir J Med Sci* 6:453-464.
Abstract: <http://link.springer.com/article/10.1007/BF02954153>

Daniel PM, Prichard MM. 1956. Anterior pituitary necrosis; infarction of the pars distalis produced experimentally in the rat. *Q J Exp Physiol Cogn Med Sci* 41:215-229.
Abstract: <http://ep.physoc.org/content/41/3/215>

Sert M, Tetiker T, Kirim S, Kocak M. 2003. Clinical report of 28 patients with Sheehan's syndrome. *Endocr J* 50:297-301.
Abstract: <http://www.ncbi.nlm.nih.gov/pubmed/12940458>

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