



NTP Nonneoplastic Lesion Atlas

Kidney – Fibrosis

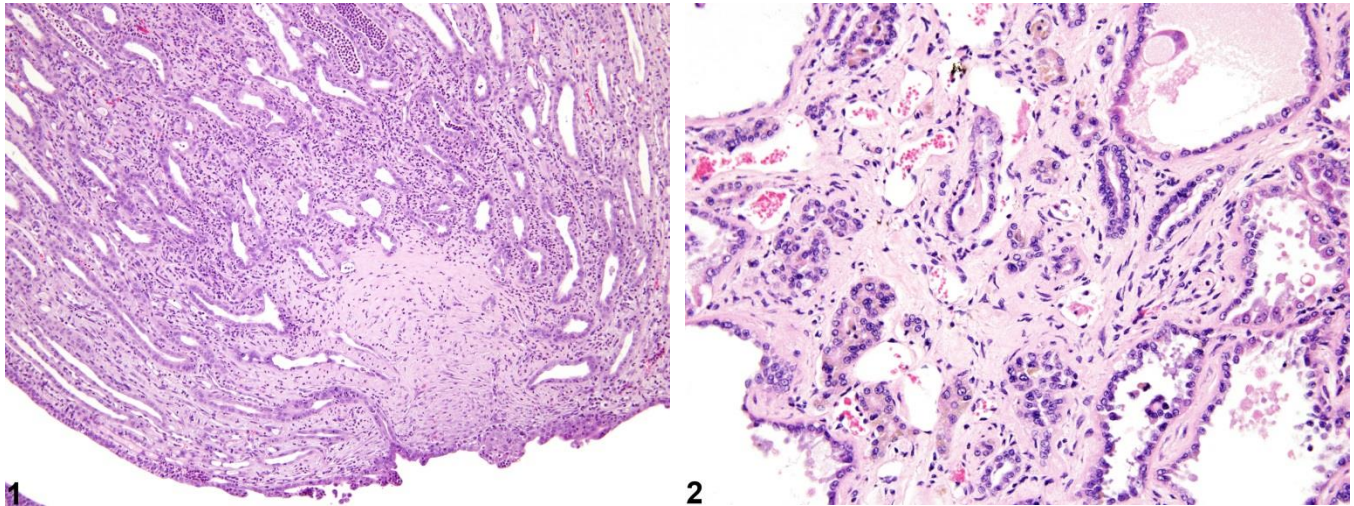
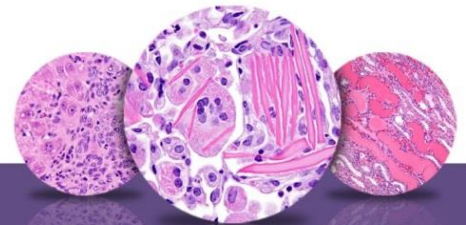


Figure Legend: **Figure 1** Kidney - Fibrosis in a female F344/N rat from a chronic study. A focal area of fibrosis is present in the distal renal papilla. **Figure 2** Kidney - Fibrosis in a male F344/N rat from a chronic study. Interstitial fibrosis separates renal tubules.

Comment: Renal (interstitial) fibrosis is associated with previous or ongoing injury to the renal parenchyma, such as that associated with chronic interstitial inflammation. The amount of fibrosis depends on the inciting condition, the amount of damage to the renal parenchyma, and the chronicity of the lesion. Fibrosis results from a complex interaction involving cytokines released by inflammatory cells, the debatable influence of tubule epithelial-mesenchyme transition, and decreased removal of collagen due to inhibition of collagenolytic enzymes. Fibrosis appears as a slightly fibrillar, eosinophilic material in the interstitium (Figure 1 and Figure 2). Fibrosis may result in progressive atrophy of the nephron in affected areas and/or dilation of renal tubules and Bowman's space.

Recommendation: If fibrosis is a primary change or is present with little or no inflammation, then it should be diagnosed and given a severity grade. When fibrosis is secondary to another process, such as inflammation, and both are present concurrently, the pathologist should use his or her judgment in deciding whether or not the fibrosis is prominent enough to warrant a separate diagnosis.



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