

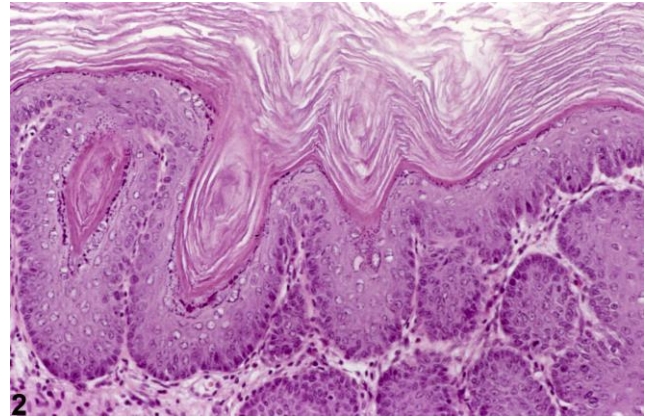


NTP Nonneoplastic Lesion Atlas

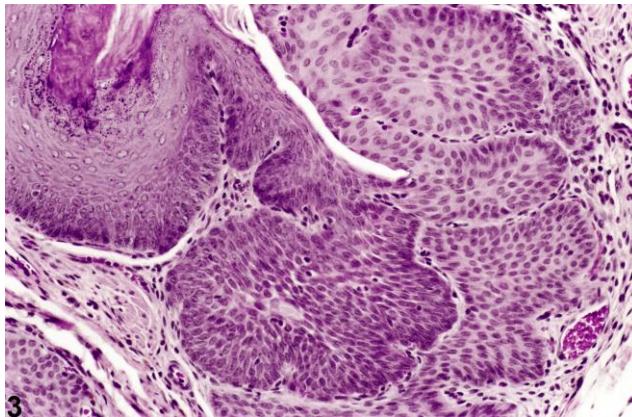
Urinary bladder – Metaplasia, Squamous *Urinary bladder – Metaplasia, Glandular*



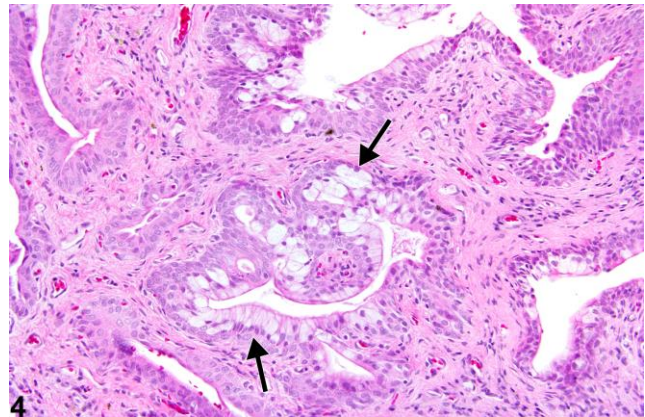
1



2



3



4

Figure Legend: **Figure 1** Diffuse squamous metaplasia and keratinization of hyperplastic urothelium in a female F344/N rat from a subchronic interim study. **Figure 2** Squamous metaplasia and keratinization in a female F344/N rat from a subchronic interim study. **Figure 3** Squamous metaplasia with and without keratinization in a female F344/N rat from a subchronic interim study. **Figure 4** Mucinous metaplasia (arrows) characterized by mucinous cells in areas of urothelial hyperplasia in a female F344/N rat from a chronic study.

Comment: Metaplasia of the urothelium reflects the potential of the urothelium to undergo a metaplastic change under a variety of conditions. Squamous metaplasia, with or without keratinization, is the most common variant observed (Figure 1, Figure 2, and Figure 3). Mucinous, glandular, or mixtures of metaplastic lesions are less commonly observed (Figure 4).



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Recommendation: Urothelial metaplasia and, in particular, the type of metaplasia should be diagnosed and given a severity grade when it becomes a major part of a lesion, for instance, in association with inflammation or hyperplasia. Small or focal lesions, when part of a primary lesion such as chronic inflammation and/or hyperplasia, should not be diagnosed separately.

References:

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Jokinen MP. 1990. Urinary bladder, ureter, and urethra. In: Pathology of the Fischer Rat: Reference and Atlas (Boorman GA, Eustis SL, Elwell MR, Montgomery CA, MacKenzie WF, eds). Academic Press, San Diego, 109–126. Abstract: <http://www.ncbi.nlm.nih.gov/nlmcatalog/9002563>

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