



NTP Nonneoplastic Lesion Atlas

Uterus, Endometrium – Hyperplasia, Cystic

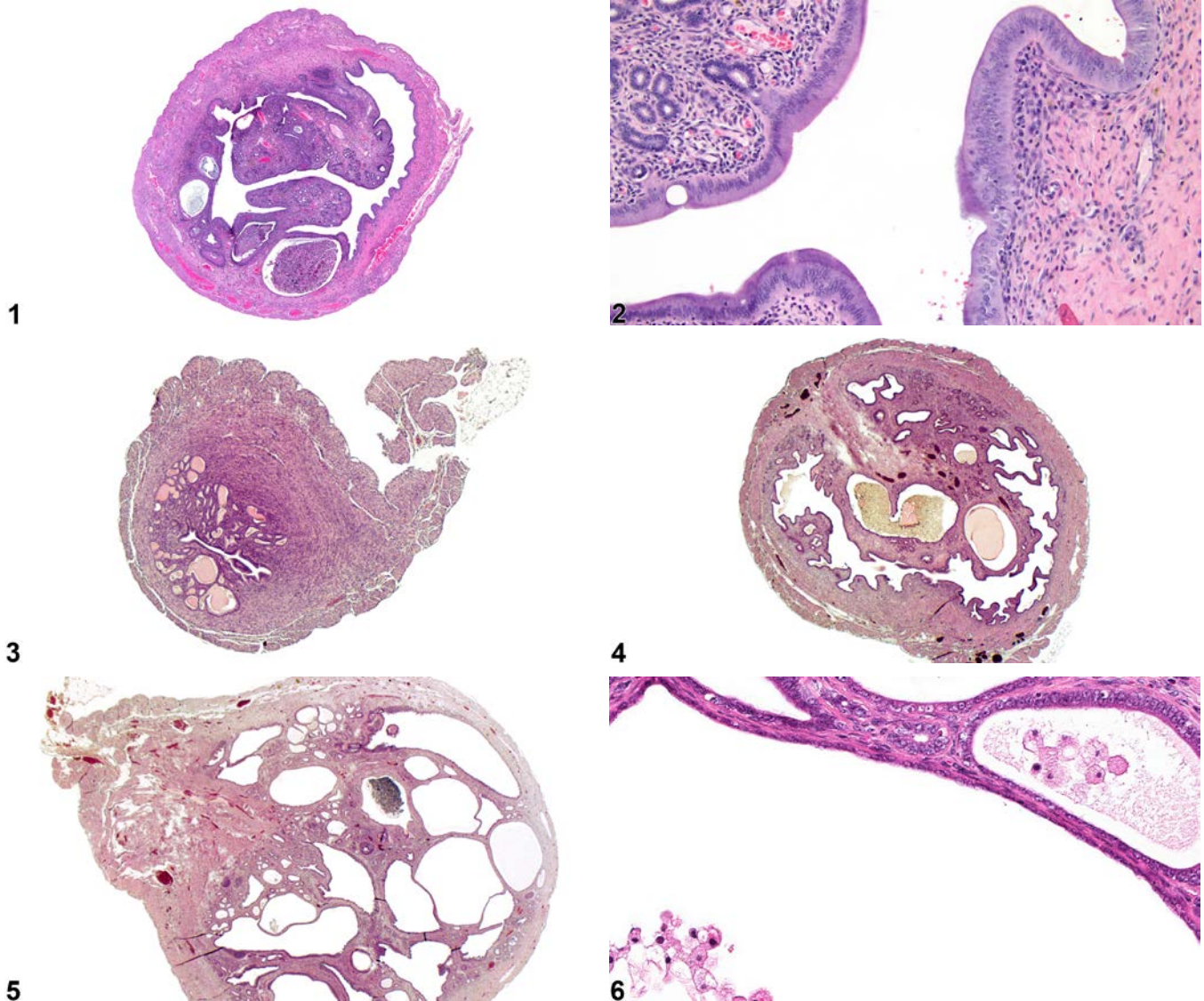
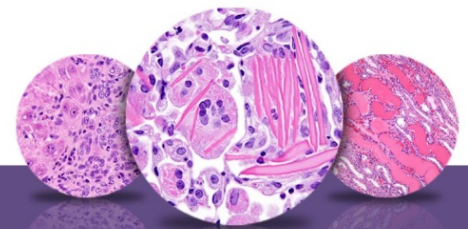


Figure Legend: **Figure 1** Uterus, Endometrium - Hyperplasia, Cystic in a female Sprague Dawley rat from a chronic study. There is mild cystic endometrial hyperplasia. **Figure 2** Uterus, Endometrium - Hyperplasia, Cystic in a female Sprague Dawley rat from a chronic study (higher magnification of Figure 2). The endometrial epithelium is columnar. **Figure 3** Uterus, Endometrium - Hyperplasia, Cystic in a female B6C3F1/N mouse from a chronic study. There is mild cystic endometrial hyperplasia. **Figure 4** Uterus, Endometrium - Hyperplasia, Cystic in a female B6C3F1/N mouse from a chronic



NTP Nonneoplastic Lesion Atlas

Uterus, Endometrium – Hyperplasia, Cystic

study. There is moderate cystic endometrial hyperplasia. **Figure 5** Uterus, Endometrium - Hyperplasia, Cystic in a female B6C3F1/N mouse from a chronic study. There are many irregularly dilated endometrial glands. **Figure 6** Uterus, Endometrium - Hyperplasia, Cystic in a female Harlan Sprague-Dawley rat from a chronic study. Dilated glands contain cellular debris and eosinophilic fluid, and the endometrial epithelium is flattened.

Comment: Endometrial hyperplasia with a cystic component (cystic endometrial hyperplasia, or CEH) (Figure 1, Figure 2, Figure 3, Figure 4, Figure 5, and Figure 6) occurs more commonly in mice than in rats and is particularly associated with increasing age. The change encompasses a spectrum of lesions from a minimal proliferation of the endometrial glands to a uterus characterized by large cystic glands and little remaining endometrium. CEH may occur as the result of prolonged estrogen stimulation associated with ovarian follicular cysts and exogenous administration of estrogenic compounds. There is an increase in the number of dilated glands with densely staining cuboidal or columnar cells with normal intervening stroma. CEH is not a localized lesion, although it may appear localized in the few sections of uterus examined microscopically. The most severely affected uteri are large and lined by attenuated epithelium.

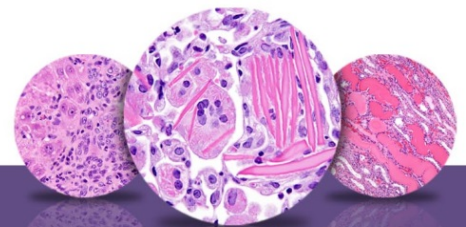
Recommendation: Uterus, Endometrium – Hyperplasia, Cystic should be diagnosed and graded whenever present. If there is a difference in the severity of grade of CEH between the two uterine horns, the more severe grade should be diagnosed.

References:

Davis BJ, Dixon D, Herbert RA. 1999. Ovary, oviduct, uterus, cervix and vagina. In: Pathology of the Mouse: Reference and Atlas (Maronpot RR, Boorman GA, Gaul BW, eds). Cache River Press, Vienna, IL, 409-444.

Greaves P. 2012. Female genital tract. In: Histopathology of Preclinical Toxicity Studies: Interpretation and Relevance in Drug Safety Evaluation, 4th ed. Elsevier, Amsterdam, 667-724.

Leininger JR, Jokinen MP. 1990. Oviduct, uterus and vagina. In: Pathology of the Fischer Rat (Boorman GA, Eustis SL, Elwell MR, Montgomery CA, MacKenzie WF, eds). Academic Press, San Diego, CA, 443-459.



NTP Nonneoplastic Lesion Atlas

Uterus, Endometrium – Hyperplasia, Cystic

References:

Maekawa A, Maita K. 1996. Changes in the uterus and vagina. In: Pathobiology of the Aging Mouse (Mohr U, Dungworth DL, Capen CC, Carlton WW, Sundberg JP, Ward JM, eds). ILSI Press, Washington, DC, 469-480.

Maekawa A, Maita K. 1996. Susceptibility of the female genital system to toxic substances. In: Pathobiology of the Aging Mouse (Mohr U, Dungworth DL, Capen CC, Carlton WW, Sundberg JP, Ward JM, eds). ILSI Press, Washington, DC, 481-493.

National Toxicology Program. 1982. NTP TR-217. Carcinogenesis Bioassay of Di(2-ethylhexyl)phthalate (CAS No. 117-81-7) in F344 Rats and B6C3F₁ Mice (Feed Studies). NTP, Research Triangle Park, NC.

Abstract: <http://ntp.niehs.nih.gov/go/11874>

National Toxicology Program. 2001. NTP TR-501. Toxicology and Carcinogenesis Studies of *p,p'*-Dichlorodiphenyl Sulfone (CAS No. 80-07-9) in F344/N Rats and B6C3F₁ Mice (Feed Studies). NTP, Research Triangle Park, NC.

Abstract: <http://ntp.niehs.nih.gov/go/14880>

Authors:

Gabrielle Willson, BVMS, DipRCPath, FRCPath, MRCVS
Senior Pathologist
Experimental Pathology Laboratories, Inc.
Research Triangle Park, NC

Karen Y. Cimon, DVM, MS
Senior Pathologist
Experimental Pathology Laboratories, Inc.
Research Triangle Park, NC