

NTP Nonneoplastic Lesion Atlas

Skin, [Adnexa, Hair follicle, Sebaceous gland – Atrophy

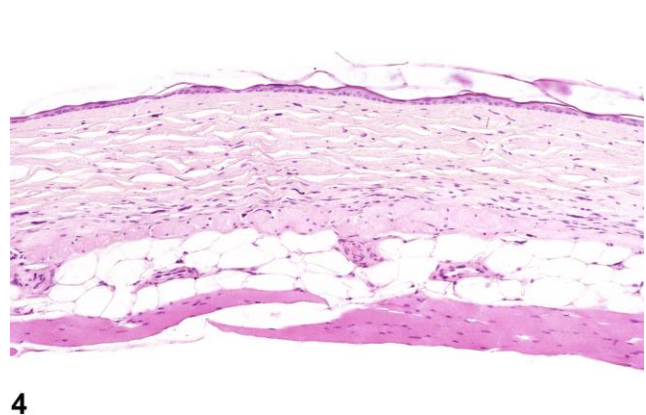
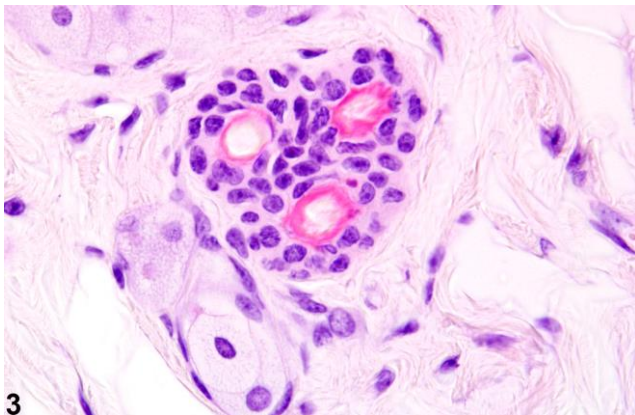
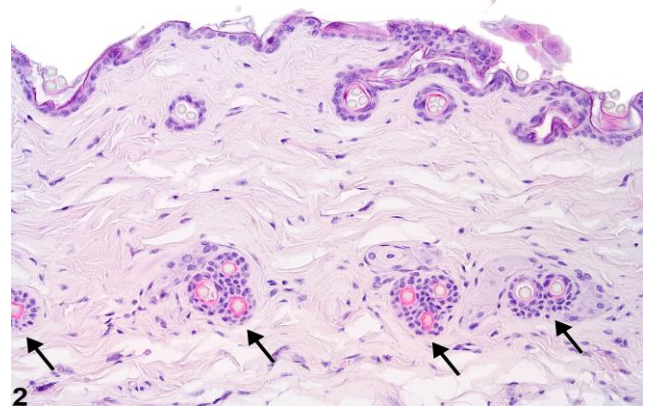
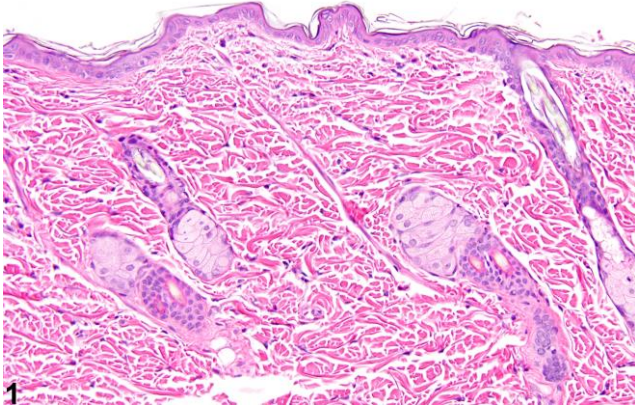
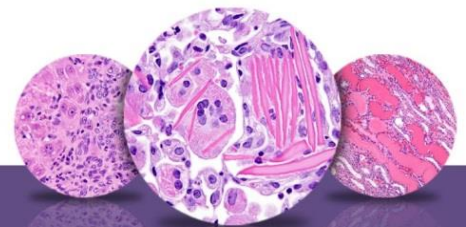


Figure Legend: **Figure 1** Normal skin in a control female F344/N rat from a 14-day repeated-dose study. **Figure 2** Adnexal atrophy—smaller and reduced numbers of pilosebaceous units (arrows) in a male B6C3F1 mouse from a chronic study. **Figure 3** Adnexal atrophy—smaller and reduced numbers of pilosebaceous units (arrows) in a male B6C3F1 mouse from a chronic study. **Figure 4** Adnexal atrophy—severe adnexal atrophy in which adnexa are absent in a male B6C3F1 mouse from a chronic study.

Comment: *Adnexal atrophy* is characterized by smaller and reduced numbers of pilosebaceous units (Figure 2 and Figure 3). In severe cases, the adnexa may be absent (Figure 4). This lesion may be accompanied by inflammation in the dermis. *Follicular atrophy* is characterized by smaller and reduced numbers hair follicles, and *sebaceous gland atrophy* is characterized by



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smaller and reduced numbers of sebaceous glands. Adnexal or follicular atrophy may correspond to the gross observation of alopecia.

The gross appearance of alopecia may be attributed to behaviors such as hair chewing or barbering, mechanical denuding due to rubbing against poorly constructed openings for feeders or water devices, parasitic infestations, and systemic diseases from hormonal (hypothyroidism) and nutritional imbalances. Some agents may affect a specific phase of the hair cycle, resulting in alopecia. For example, many chemotherapeutic agents interfere with the rapid mitotic activity of hair follicles in the anagen phase. Other compounds are known to affect hair follicles in the telogen phase, such as thallium, triparanol, and coumarin. Some compounds, such as phenyl glycidyl ether and dixyrazine, have effects on both the anagen and telogen phases. Follicles affected in a particular phase are likely to appear atrophied. Alopecia with atrophy or complete loss of hair follicles may also occur in skin over a subcutaneous or dermal neoplasm.

Recommendation: If atrophy of both hair follicles and sebaceous glands is present, the term “Skin, adnexa – Atrophy” should be used. If follicular atrophy occurs without involvement of other adnexal structures, the term “Skin, Follicle – Atrophy” should be used. If sebaceous gland atrophy occurs without involvement of other adnexal structures, the term “Skin, Sebaceous gland – Atrophy” should be used. Whenever present, adnexal atrophy, follicular atrophy, or sebaceous gland atrophy should be diagnosed and assigned a severity grade. If these are present as a secondary lesion to neoplasia, chronic inflammation, or fibrosis, it need not be diagnosed but should be described in the pathology narrative.

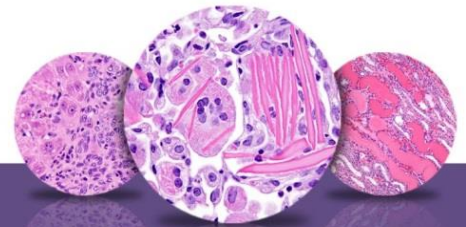
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