

Fig. 3-21 500ppm アセトアルデヒド全身曝露による尿中 8-OHdG の変化

- 採尿時期は曝露前、6日間曝露、12日間曝露
- 午前10時ごろに採尿した随時尿を検体として使用した。
- 尿中 8-OHdG 値は尿中クレアチニン値で補正した

Aldh2^{+/+}: わずかに上昇

Aldh2^{-/-}: 経時的に上昇

12日間曝露では、+/+の1.5倍程度上昇したが、有意差を認めなかった。

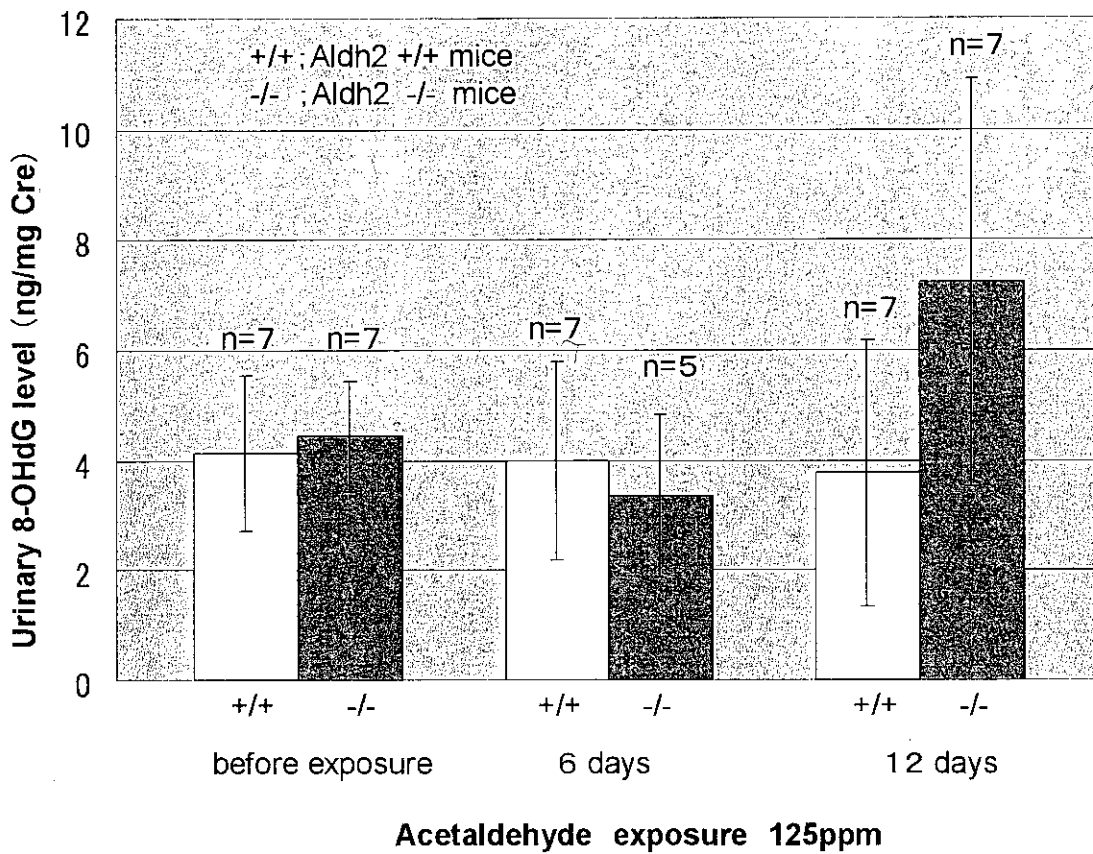


Fig. 3-22 125ppm アセトアルデヒド全身曝露による尿中 8-OHdG の変化

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- 午前10時ごろに採尿した随時尿を検体として使用した。
- 尿中 8-OHdG 値は尿中クレアチニン値で補正した

• 125 ppm 曝露

Aldh2^{+/+}: 変化なし

Aldh2^{-/-}: 12日間曝露で上昇したが、有意差を認めなかった。

Table1 Results of Hematoxylin-Eosin (HE) staining in *Aldh2*^{+/+} and *Aldh2*^{-/-} mice.

(): The numbers of specimens.

	<i>Aldh2</i> ^{+/+}			<i>Aldh2</i> ^{-/-}		
	Control	Acetaldehyde exposure		Control	Acetaldehyde exposure	
		125ppm	500ppm		125ppm	500ppm
I. Nose (n)	(5)	(4)	(5)	(5)	(4)	(5)
A. Squamous epithelium						
Hyperkeratinization	0	0	4 (80%)	0	1 (25%)	5 (100%)
Broadness to respiratory epithelium	0	0	0	0	0	0
Erosion	0	0	0	0	0	0
Degeneration (atrophy, disarrangement)	0	0	0	0	0	0
Slight						
Moderately						
Severe						
Hyperplasia	0	0	0	0	0	0
Slight						
Moderately						
Severe						
B. Respiratory epithelium						
Broadness to olfactory epithelium	0	0	0	0	0	0
Erosion	0	1 (25%)	1 (20%)	0	0	5 (100%) (Ulcer:1)
Degeneration (atrophy, disarrangement)	0	2 (50%)	3 (60%)	0	3 (75%)	4 (80%)
Slight		0	1		0	0
Moderately		2	2		3	2
Severe		0	0		0	2

Hyperplasia	0	0	0	0	0	0
Slight						
Moderately						
Severe						
Squamous cell metaplasia	0	0	0	0	0	0
Slight						
Moderately						
Severe						
Goblet cell metaplasia	0	0	0	0	0	0
Slight						
Moderately						
Severe						
C. Olfactory epithelium						
Erosion	0	0	0	0	0	0
Degeneration (atrophy, disarrangement)	0	0	1 (20%)	0	0	1 (20%)
Slight			1			1
Moderately			0			0
Severe			0			0
Hyperplasia	0	0	0	0	0	0
Slight						
Moderately						
Severe						
Metaplasia to squamous epithelium	0	0	0	0	0	0
Slight						
Moderately						
Severe						
Metaplasia to respiratory epithelium	0	0	0	0	0	0
Slight						
Moderately						
Severe						
D. Subepithelium						
Hemorrhage	0	0	0	0	2 (50%)	1 (80%)
Teleangiectasia	0	0	0	0	0	0
Infiltrate of inflammatory cells	0	0	0	0	0	0

Edema	0	0	0	0	0	0
II. Nasal cavity						
Hemorrhage	0	0	0	0	1 (25%)	1 (20%)
Exudate	0	0	4 (80%)	0	0	5 (100%)
III. Paranasal sinuses						
Sinusitis	0	0	1 (20%) (Hemorrhage: 1)	0	0	0
IV. Larynx, pharynx and trachea						
A. Respiratory epithelium						
Erosion	1 (14%)	1 (100%)	1 (14%)	2 (22%)	3 (75%)	3 (33%)
Degeneration (atrophy, disarrangement)	0	3 (75%)	0	0	3 (75%)	4 (44%)
Slight		1			2	2
Moderately		2			1	2
Severe		0			0	0
Hyperplasia	0	0	0	0	0	0
Slight						
Moderately						
Severe						
Squamous cell metaplasia	0	0	0	0	0	0
Slight						
Moderately						
Severe						
Goblet cell metaplasia	0	0	0	0	0	0
Slight						
Moderately						
Severe						
B. Subepithelium						
Hemorrhage	0	0	0	0	0	0
Teleangiectasia	0	0	0	0	0	0

Infiltrate of inflammatory cells	0	0	0	0	0	0
Edema	0	0	0	0	0	0
V. Tracheal cavity						
Hemorrhage	0	0	1 (14%)	2 (22%)	0	1 (11%)
VI. Lung						
A. Bronchus						
Hemorrhage in bronchus	1 (10%)	0	0	1 (11%)	0	0
Erosion	0	0	0	0	0	0
Degeneration (atrophy, disarrangement)	0	0	0	0	0	0
Slight						
Moderately						
Severe						
Hyperplasia	0	0	0	0	0	0
Slight						
Moderately						
Severe						
Squamous cell metaplasia	0	0	0	0	0	0
Slight						
Moderately						
Severe						
Goblet cell metaplasia	0	0	0	0	0	0
Slight						
Moderately						
Severe						
B. Pulmonary parenchyma						
Alveolar hemorrhage	2 (20%)	0	1 (10%)	1 (11%)	1 (25%)	2 (20%)
Interstitial thickness	0	0	0	0	0	0
Peribronchial changes	0	0	0	0	0	0
Hemorrhage						
Edema						
Infiltrate of inflammatory cells						

VII. Liver	(10)	(4)	(10)	(10)	(4)	(10)
Changes near central vein	0	0	0	0	0	0
Hemorrhage						
Edema						
Infiltrate of inflammatory cells						
Degeneration						
Necrosis or apoptosis						
Changes near interlobular vessels	1 (10%)	2 (50%)	6 (60%)	2 (20%)	2 (50%)	6 (60%)
Hemorrhage						
Edema						
Infiltrate of inflammatory cells						
Degeneration						
Necrosis or apoptosis	1	2	6	2	2	6

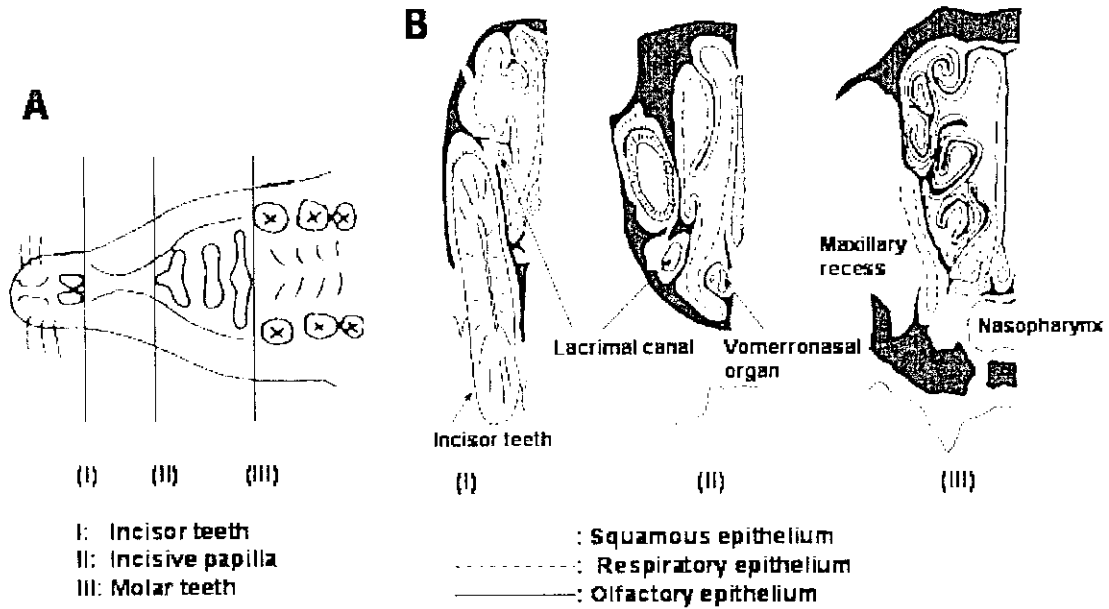
VIII. Auricle	(10)	(0)	(10)	(10)	(0)	(9)
A. Squamous epithelium						
Hyperkeratinization	0		10 (100%)	5 (50%)		8 (89%)
Degeneration (atrophy, disarrangement)	0		0	0		0
Slight						
Moderately						
Severe						
Hyperplasia	0		0	0		0
Slight						
Moderately						
Severe						
B. Subepithelium						
Hemorrhage	0		0	0		0
Teleangiectasia	0		0	0		0
Infiltrate of inflammatory cells	0		0	0		0
Edema	0		0	0		0

IX. Dorsal skin	(10)	(0)	(10)	(10)	(0)	(9)
A. Squamous epithelium						
Hyperkeratinization	0		0	0		0
Degeneration (atrophy, disarrangement)	0		0	0		7 (78%)
Slight						3
Moderately						4
Severe						0
Hyperplasia	0		0	0		0
Slight						
Moderately						
Severe						
B. Subepithelium						
Hemorrhage	0		0	0		0
Teleangiectasia	0		0	0		0
Infiltrate of inflammatory cells	0		0	0		0
Edema	0		0	0		0

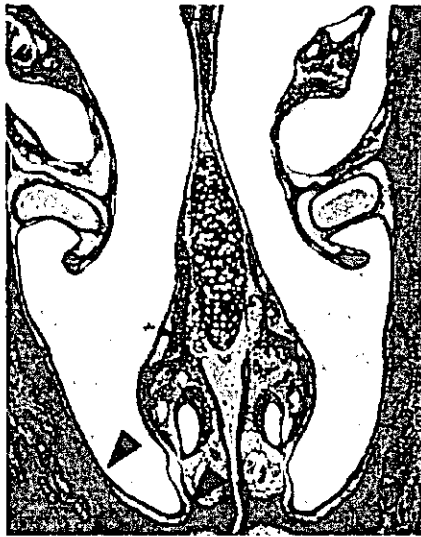
Figure I-1 Nose

A Vertical view of the section levels for microscopic examination

B Distribution of three kinds of nasal epithelium



FigureI-2 Nose
Squamous epithelium
level I&II, *Akh2* +/+, control



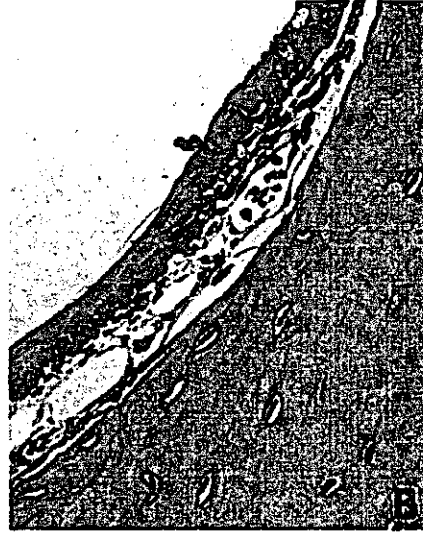
level I

Arrow: squamous epithelium



level II

Figure I-3 Nose
Squamous epithelium
level I, *Ahh2* +/+ , control



Arrow: squamous epithelium

Figure I-4 Nose
Squamous epithelium
level II, *Aldh2* +/+ , control



Arrow: squamous epithelium

Figure I-5 Nose
Squamous epithelium: Hyperkeratosis and keratonosis
level II, *Akh2 +/+*, 500ppm acetaldehyde exposure case



Figure I-6 Nose
Squamous epithelium: Hyperkeratosis
level I, *Akh2* -/-, 125ppm acetadehyde exposure case

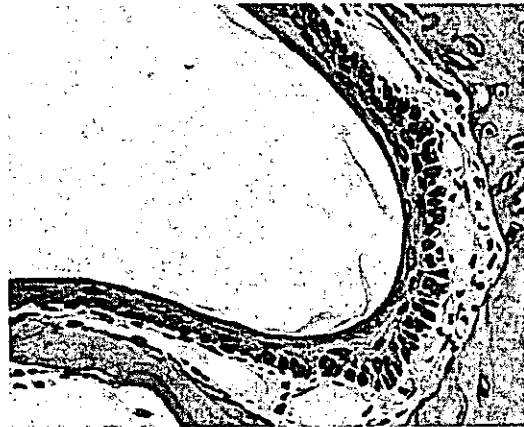
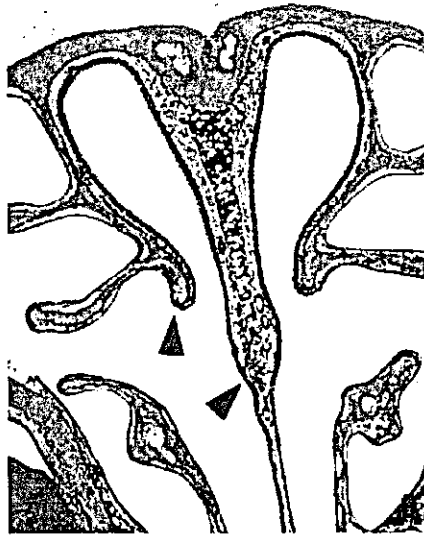


Figure I-7 Nose

**Squamous epithelium: Hyperkeratosis and keratosis;
level I&II, *Ahh2* -/-, 500ppm acetaldehyde exposure case**



Figure I-8 Nose
Respiratory epithelium
level II&III, *Aldh2* +/+ control



level II



level III

Figure I-9 Nose
Respiratory epithelium
level II, *Akh2* +/+ , control

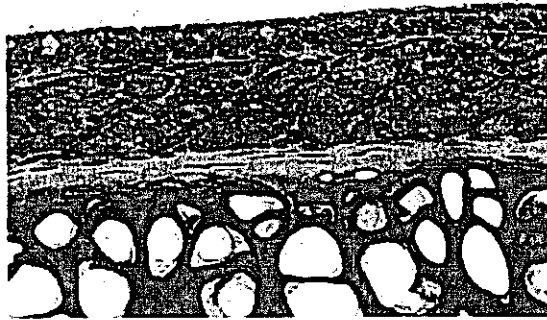


Figure I-10 Nose
Respiratory and olfactory epithelium
level I, *Ahh2* +/+ , control

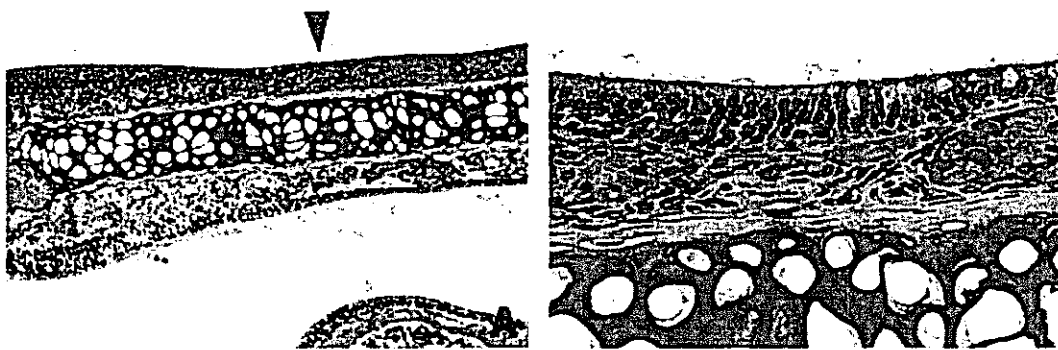


Figure I-11 Nose
Respiratory epithelium; Erosion
level I, *Alh2* +/+ , 125ppm acetaldehyde exposure case

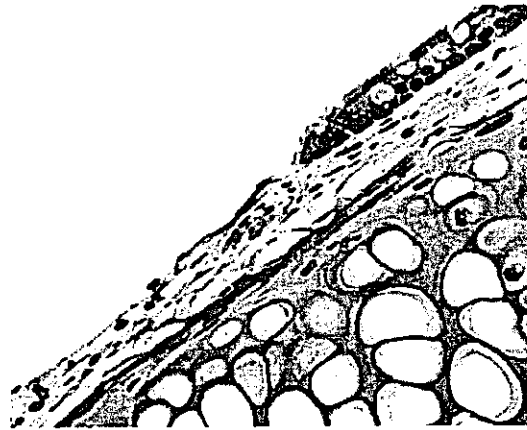


Figure I-12 Nose
Respiratory epithelium, Erosion
level I, *Akh2 +/+*, 500ppm acetaldehyde exposure case

