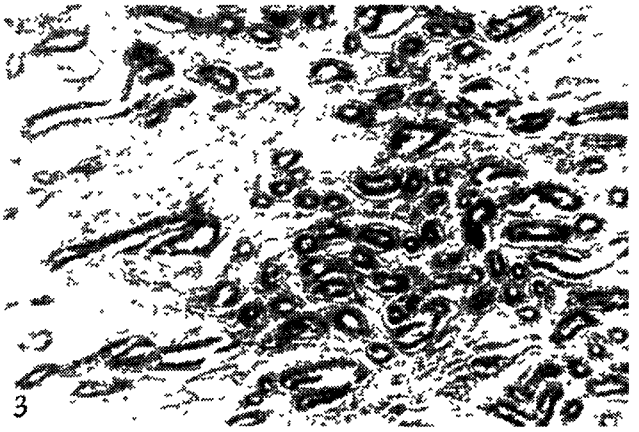

Figure 3.

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Expression of Cytokeratins in the Urinary Passages

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Abstract. The distribution of Pan cytokeratin and cytokeratin 18 in the dog and sheep urinary bladder and ureter as seen by immunohistochemistry using monoclonal antibodies

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is described Both cytokeratins were observed in the urinary bladder and ureter of the studied species Differences in their localization are described

Key words: Pan cytokeratin — CK 18 — Urinary passages

Introduction

Intermediate filaments fall into five different classes, of which the cytokeratins represent a very heterogenous group The expression of different intermediate filaments is cell – type specific (Lazarides, 1982) Achtstaetter et al (1985) reported the presence of 11 different CK polypeptides in the different epithelia of the male urinary tract Differences in CK patterns were related to known morphological differences in the different studied areas In the areas showing morphological transitions of transitional epithelium to columnar epithelium and of nonkeratinizing squamous epithelium to keratinizing squamous epithelium, gradual shifts of cytokeratin expression patterns were observed, often anticipating the morphological changes Distribution of intermediate filaments cytokeratins in epithelial cells of the sheep and dog urinary bladder and ureter was studied on paraffin sections by indirect immunohistochemistry

Materials and Methods

Samples from urinary bladder and ureter of 4 sheeps and 3 dogs were fixed in 4% buffered formalin for 24 hours After rehydratation with PBS, the sections were incubated, first for 30 min at room temperature with 2% normal goat serum and then for 24 h at 4 °C with the primary antisera directed against Pan cytokeratin and cytokeratin 18 After incubation with monoclonal antibodies, the avidin-biotin-peroxidase complex (ABS) method (Hsu *et al* 1981) was performed

Figure 1.

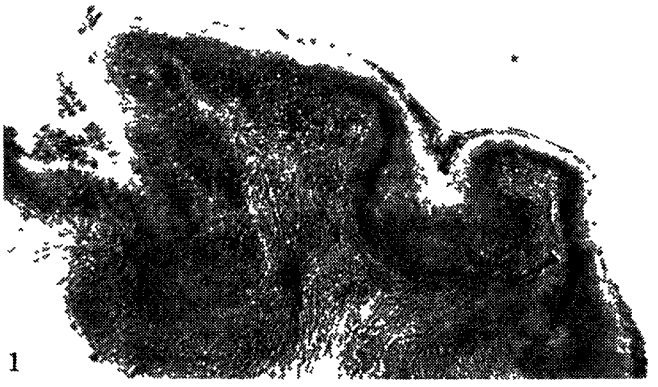

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Figure 2.

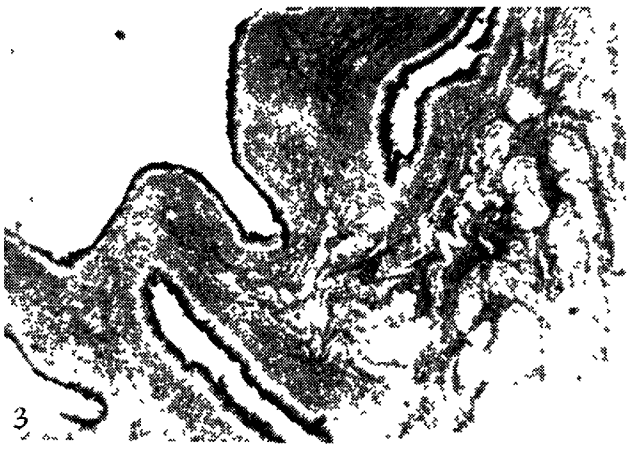

Figure 3.

Results and Discussion

Transitional epithelium of renal pelvis is positive for CK 18 predominantly in the upper cell layers Cells in the intermediate layers were heterogenously positive for this cytokeratin (Fig 1) This portion of the pelvic epithelium appears morphologically similar to the medullary collecting duct epithelium The various antibodies to cytokeratins react on the pelvic epithelium in a similar manner as described above for the collecting duct epithelium (Lacy and Schmidt-Nielsen 1979) Intraepithelial differences in cytokeratin expression could be shown to be differentiation related (Schaafsma *et al* 1989) The most conspicuous reaction for cytokeratin 18 was observed in the cells facing the urinary lumen of ureter and bladder with cell extensions reaching down between intermediate cell layers or staining sporadically intermediate cells lying beneath the peripheral cells (Fig 2, 3) Our results and results of Dabike et al (1989) taken from the amphibian urinary bladder show that, epithelial cells lining the ureter and urinary bladder are very rich in Pan

cytokeratin and cytokeratin 18 According to Dabike *et al* (1989) the cytokeratins are organised as a filamentous network

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Functional Specialization of the Epithelium in the Mesonephric Tubules

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Abstract. An electron microscopy study was aimed to correlate structural differentiation of the epithelium in mesonephric proximal tubules (PT) with the expression of membrane activities of alkaline phosphatase (AP) and 5′-nucleotidase (AMP) Tissue samples of mesonephros were taken from 5 to 16 days old chick embryos Both enzymes were detected with cerium technique, Mayahara modification of lead capture method was used also for localization of AP Control incubation was performed with levamisole The formation of absorptive apparatus was characterized by the differentiation of PT epithelium Activities of AP and AMP appeared to increase rapidly with the differentiation of epithelium Reaction products of AP and AMP were detected on brush border as well as on

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