Journal of Andrology, Vol 6, Issue 4 230-242, Copyright © 1985 by The American Society of Andrology

JOURNAL ARTICLE

Lectin-binding pattern of bull testis and epididymis

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Seven rhodamine-conjugated lectins (PNA, RCA I, SBA, Con A, WGA, UEA I, DBA) were used to study the distribution of glycoproteins in the testis and epididymis of immature, juvenile, and adult bulls. A marked change was found in the staining pattern of the lectins in the seminiferous tubules during acrosomal development, and the Sertoli cells seemed to have a cyclic affinity for some of the lectins. The distribution of lectin staining in six regions of the bull epididymis showed some typical differences that were associated with the secretory and absorptive functions of the organ. Region 1 was characterized by strong surface and villous staining and a patchy reaction in the principal cells. Regions 2 and 3 showed a strongly reactive apical Golgi zone and secretory material. In regions 4 and 5, the Golgi zone was subapical but strongly reactive with most lectins, while in region 6 a weakly reactive apical Golgi zone was found. During sexual maturation, an increasing number of basal cells with a strong affinity for some lectins was found at the periphery of the epithelium in regions 2 to 6. These regions also had lectin-stained material along the basal border of the principal cells. These findings suggest that the basal cells may be active in the digestion of absorbed material and that they derive from the principal cells, which may be active in transporting absorbed material to them. The staining pattern of the spermatozoa changed during their transit through the epididymis. The degenerating cells in the testis and epididymal tubules also showed an altered affinity for the lectins.

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