

Lectin-binding sites in newborn human testis

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SUMMARY

The present investigation has been performed to obtain a complete distributional map of the oligosaccharidic component of the glycoconjugates in the testis of the human newborn. For this purpose seven eight HRP-conjugated lectins (SBA, DBA, PNA, WGA, OOA, UEAI, LTA and ConA) along with enzymatic treatments, were used. The Sertoli cells were characterized by the same sugar residues detected in the testes of adult healthy subject. β -N-acetyl-D-galactosamine in the Leydig's cells and α -N-acetyl-D-galactosamine anomer in the spermatogonia seem to be a unique feature of the newborn testis. For this fact SBA and DBA could be considered markers respectively of the Leydig's cells and of the spermatogonia in the newborn testis. Differences in lectin binding, between the newborn and the adult testis as the interstitial tissue and the endothelial cells of the capillary vessels are reported.

INTRODUCTION

Previous lectin histochemical studies on the spermatogenic cells in testes of many mammalian species (Arya and Vanha-Perttula, 1984; Lee and Damjanov, 1984; Arya and Vanha-Perttula, 1985; Malmi et al., 1990; Kurhmaru et al., 1991) including man (Lee and Damjanov, 1985; Malmi et al., 1987; Wollina et al., 1989; Arenas et al., 1998) have demonstrated the important role played by the sugar residues of the glycoconjugates in regulating the process of gametogenesis maturation in adult animals. It is well known that carbohydrates, besides nucleic acids and proteins, for their structural variety have a great capacity for carrying cell-to-cell information and have a role in regulating cell-to-cell interaction and cell migration (Gheri Bryk et al., 1997). These biological activities are important not only during germ cell differentiation but also in non-germinal cells.