Streptococcus Group B (GBS) - Characteristic, Occurrence in Children and Adolescents with Type 1 Diabetes mellitus

MARIA NOWAKOWSKA1* and PRZEMYSŁAWA JAROSZ-CHOBOT2

1 Chair and Department of Microbiology, Silesian Medical University
2 Clinic of Pediatrics, Endocrinology and Children Diabetology, Silesian Medical University, Poland

Received 3 November 2003

Abstract

Group B streptococcus causes infections in woman during pregnancy and confinement, perinatal infections in new-borns related to mothers carrier-state and in adults, mostly in the elderly, with one or more predisposing to infections conditions. Diabetes mellitus is the most common underlying condition. The aim of the study was to determine the frequency of GBS occurrence and GBS antibiotic susceptibility in children and adolescents with type 1 diabetes mellitus. In years 2000-2002 occurrence of GBS in some clinical materials (urine, swabs from pharynx and urogenital tract) taken from 161 diabetics: 90 girls and 71 boys, hospitalized for newly diagnosed diabetes or insufficient metabolic control/longer duration of diabetes and 37 children with hypostatura (control group) aged from 5-17 years, was examined. Susceptibility of isolated GBS strains to ampicillin, erythromycin and clindamycin was determined. GBS were obtained from different materials from 36 (22.4%) diabetic children - 25 girls (27.8%), and 11 boys (15.5%). In all examined groups GBS was detected significantly in children with insufficient metabolic control/longer duration of diabetes (27 of 36 children; p=0.029, \(\chi^2=4.773\)). GBS in girls was isolated mainly from vestibule of vagina (25 cases) and in few cases (4) from the pharynx. GBS in boys was grown from materials from urethra (6 cases) and pharynx (5 cases). In the control group, GBS colonization was observed only in one case. All isolates (40 strains) were susceptible to penicillins, however lower susceptibility to erythromycin (3 resistant and 1 moderately sensitive) and clindamycin (3 resistant) were observed. High percentage of carriers of GBS both in girls and boys with diabetes mellitus is the potential risk factor of infection caused by GBS.

Key words: Diabetes mellitus, children, colonisation GBS, Streptococcus agalactiae

* Correspondence author: dr Maria Nowakowska, Chair and Department of Microbiology, Silesian Medical University, 40-752 Katowice, Medyków 18, tel: +32 2088551; e-mail: mhnnowakowska@wp.pl