SERUM CA19-9 AMONG JAPANESE BRAZILIAN CHILDREN AGED LESS THAN 20 YEARS

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Background: CA19-9 is a tumor marker used for the monitoring of cancers of biliary tract, pancreas and colorectum. Since the marker applies usually for adults, the distribution of serum CA19-9 among children has been rarely reported. This study reports the distribution of serum CA19-9 obtained from Japanese Brazilians including children. Subjects and methods: Subjects were 265 families with one or more children aged 0 to 19 years, who were enrolled for a study on Helicobacter pylori infection through Japanese Brazilian societies in Sao Paulo1). In total, 1,037 Japanese Brazilians were participated. Among them, 1,022 samples were available for CA19-9 measurement. Results: Children aged 0-19 years were 511 (269 boys and 242 girls). The distribution of serum CA19-9 is shown in Figure 1. The comparison in five-year age groups demonstrated that the mean of serum CA19-9 was lower in the boys than in girls, and higher in younger age groups; 24.9 U/mL for 0-4 years (n=14), 20.4 U/mL for 5-9 years (n=74), 14.8 U/mL for 10-14 years (n=105), and 10.4 U/mL for 15-19 years (n=76) in boys, and 38.4 U/mL (n=12), 27.2 U/mL (n=53), 18.4 U/mL (n=114), and 14.5 U/mL (n=63) in girls, respectively. The difference in the mean was significant among four age groups for boys (ANOVA, p=0.0126) and for girls (ANOVA, p=0.0015). Two-way ANOVA showed both sex (p=0.0125) and age group (p<0.0001) was significant. When a regression model was applied, sex (beta=4.3, p=0.019), age in years (beta=-0.88, p<0.001), and BMI (body mass index, kg/m2) (beta=-0.46, p=0.042) were significantly associated with CA19-9. The associations were not marked for age and BMI among those aged 20 years or over; beta=0.27 and p=0.016 for age in years and beta=-0.00 p=0.961 for BMI, while sex had a strong association (beta=3.8, p=0.007). Discussion: This study indicated that girls had higher serum CA19-9 than boys, and that the CA19-9 levels were higher among the younger children. Since Lewis and Secretor genotypes influence serum CA19-9 levels2), the genotypes have to be taken into account. The results according to the genotypes will be presented at the Conference. References: 1) Ito et al. Community-based familial study on Helicobacter pylori infection among healthy Japanese Brazilians. Gastric Cancer 9: 208-216, 2006. 2) Kawai et al. Smoking and serum CA19-9 levels according to Lewis and Secretor genotypes. Int J Cancer 123: 2880-2884, 2008.

![Figure 1: Serum CA19-9 among Japanese Brazilians aged less than 20 years](image-url)