

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

Nobuyuki Hamajima¹, Lucy Sayuri Ito², Miyuki Uno²,
Sueli Miekko Oba-Shinjo², Sayo Kawai¹

¹Department of Preventive Medicine, Nagoya University Graduate School of Medicine, Japan, ²Japanese Brazilian Health Professional Volunteer Group



Nobuyuki
Hamajima

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.

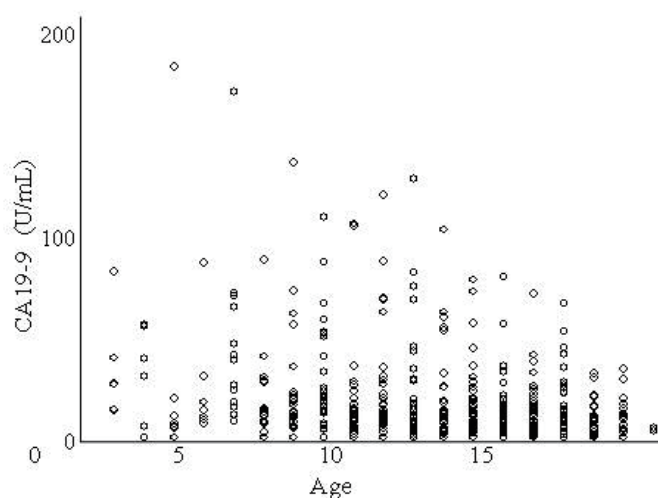


Figure 1. Serum CA19-9 among Japanese Brazilians aged less than 20 years