

Gender differences in fasting serum Leptin level among Malaysian population

Dalia F¹, Basma E², Abdulrazaq K³, Naziyah S⁴, Osama Y⁵, R Rozaman

1. Department of obstetric and gyneacology, kulliyah of medicine, International Islamic University Malaysia
2. Department of basic medical science, Kulliyah of Dentistry, International Islamic University Malaysia
3. Department of internal medicine, Hospital Tengku Ampuan Afzan, Kuantan, Malaysia
4. Department of oral surgery, Kulliyah of Dentistry, International Islamic University Malaysia
5. Kulliyah of Science, Al-Zaytoonah University of Jordan, Amman, Jordan

Serum leptin increases with progressive obesity in both genders. However, for any given measure of obesity, leptin levels are higher in women than men.

This research is to study the gender differences of the fasting plasma leptin concentration in Malaysian people from east coast Malaysia with a back ground knowledge of ethnic variation. To be as a baseline for future research, and to consolidate our knowledge regarding leptin and it's correlation with endocrine disorders.

Objective: To study the gender differences of the plasma leptin and its relationship to the ethnic group, so that can establish a base line for future studies regarding leptin hormone and it's association with different endocrine and fertility issues

Method: This was a cross sectional study included 100 consented Malaysian people(50 male and female) were recruited from Kulliyah of dentistry, International Islamic University Malaysia and medical department, Hospital Tengku Ampuan Afzan, Kuantan, those with endocrine, diabetic illness, abnormal BMI, chronic illness and any patient on hormonal treatment were excluded from the study. Individual venous blood was taken between 0800–0900 am after an overnight fasting. Determination of serum leptin was done by enzyme linked immune-sorbent assay (ELISA)and measured in ng/ml. Data were analyzed using SPSS 18

Result: Mean age were, 34.5 ± 6.4 and 31.2 ± 4.3 for male and female respectively, there was no significant difference between the age of both groups. Mean body mass index for male was 23 ± 1.91 Kg / m² which were not significantly different from the female BMI which was 22 ± 0.87 Kg / m².

data were analysed by Mann-Whitney U-test, found that serum leptin levels in females are significantly higher ($Z = 6.0, p < 0.001$) than those in males, 7.29 ng/ml vs 3.94 ng/ml respectively. Correlation coefficient of serum leptin level with female body mass index (kg/m²) is 0.693 in a value of $< .0001$

conclusion: Serum leptin is significantly affected by gender, with women have significantly higher serum leptin level than man, further study is required to measure the fat mass in addition to serum leptin in both genders as a possible reason for this difference,.

Keywords *LEPTIN , GENDER, Ethnic variation*