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L-arginine levels among hypertensive patient of African descent in Sokoto, North Western Nigeria

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Hypertension is a major public health problem that adversely affects the health status of individuals, families and communities. L-arginine levels of a total of 90 consecutively- recruited hypertensive subjects and 50 age-matched non-hypertensive controls were studied. Plasma from subjects and control participants were analyzed for L-arginine. The mean values of L-arginine level were significantly lower among the hypertensive subjects 174.33 ± 78.31 $\mu\text{mol/L}$, compared to those of the 50 non-hypertensive controls 237.82 ± 261.16 $\mu\text{mol/L}$ ($p=0.04$). There was no statistically significant difference in the L-arginine levels of hypertensive subjects based on gender, age and ethnicity ($p=0.87$, 0.23 and 0.57), respectively. The L-arginine level was significantly higher among married hypertensive subjects (181.71 ± 78.17 $\mu\text{mol/L}$) compared to single or unmarried subjects 130.62 ± 65.99 $\mu\text{mol/L}$ ($p=0.03$). The mean value of L-arginine level was significantly higher among hypertensive subjects with mild blood pressure 187.63 ± 77.93 $\mu\text{mol/L}$, compared to those with high blood pressure 156.93 ± 76.31 $\mu\text{mol/L}$. The difference however was not statistically significant ($p=0.05$). The findings from this study confirm that the level of L-arginine is lower among hypertensive subjects compared to non-hypertensive controls. Age, gender and ethnicity did not have a significant effect on the L-arginine levels of hypertensive subjects. L-arginine level was significantly lower among single hypertensive patient and those with markedly raised blood pressure. It is recommended that L-arginine supplement be prescribed to hypertensive patient as a prophylactic measure. There is need to enlighten hypertensive patients in the area on the need to maintain a balanced diet containing sufficient level of L-arginine.

Biography

Erhabor Osaro is a Professor of Hematology, Blood Transfusion Medicine and Laboratory Total Quality Management. He has received his PhD in Immuno-Hematology from the Rivers State University of Science and Technology in Port Harcourt, Nigeria. He is also an Alumni of University of Greenwich in the United Kingdom and Francis Tuttle College of Technology in Oklahoma, USA. Currently, he is a Professor in Usmanu Danfodiyo University, Sokoto, Nigeria, where he teaches best practices in hematology, blood transfusion science and laboratory total quality management. He has more than 200 published articles in both local and international journals, 5 scientific books and 5 chapters of scientific books. He is on the Editorial Board of several reputable local and international journals and Editor-in-Chief of the renowned *Sokoto Journal of Medical Laboratory Science*. He is an expert reviewer to several international scientific journals. He has recently bagged the Specialist Certificate in Blood Transfusion Science Practice (SCTSP) from the British Blood Transfusion Society in the United Kingdom. He is a recipient of several awards and honors including the Margaret Kenwright Award from the British Blood Transfusion Society (BBTS). He is the President of Board of Directors of Nelon Medical Limited, UK.

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