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Examination of facial shape changes associated with cardiovascular disease using geometric morphometrics

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Facial investigations using geometric morphometrics has been used in many studies to affirm that a particular disease can attribute to an individual's facial morphology. A landmark based geometric morphometric analysis was used in this study to assess if facial shape changes are associated with Cardiovascular Diseases (CVD) and if facial morphology of the CVD individuals differs from the normal ones. In the Municipality of Cantilan, Surigao del Sur, frontal face images taken from 32 cardiovascular disease patients and 32 normal individuals were examined using 41 manually positioned landmarks. Result showed that facial morphology of the CVD group differs from non-CVD group. Procrustes ANOVA showed significant values for the individual symmetry and directional asymmetry. The analysis of structure by the principal components reveals particular variations and the scatter plot of the residual asymmetry shows distinct differences between CVD and non-CVD. Therefore, cardiovascular diseases contribute to facial shape changes and that development of facial morphology differs between CVD and non-CVD group.

Biography

Rose Chinly Mae Ortega is a graduate of Bachelor of Science in Biology (2016) in Mindanao State University-Iligan Institute of Technology in the Philippines. She is now a full-time Masters in Biology (Advanced) student of the same institution under the scholarship of the Department of Science and Technology-ASTHRDP. As a young fellow, she is interested and working on physical examination on early detection of Cardiovascular diseases of any parts of a human body using Geometric Morphometric Analysis. Other field of interest includes Metagenomic Analysis on microbial flora on internal and external organs.

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