ABSTRACT

Cerebral Aneurysm is cerebrovascular anomaly where there is conflation on artery due to diminish and weaken on brain's artery so it is become widen. Nowadays this aneurysm diagnosed and identified by using medical image technology such as Angiography, CT scan, or MRI but that method depends on observer's precision and subjectivity.

This research was designed detection system and aneurysm cerebral classification volume. It starts with acquiring DSA video result into avi format to become input for system. Then continue with taking frame of interest from video input and change into greyscale image and obtaining area of interest that has been modified in bw image for input of detection process. And then measurement on cerebral aneurysm with diameter approach and classifying every aneurysm size into 4 class. After acquire detection and measurement result then color indicator given to aneurysm size classification.

Based on test results with accuracy average 98.096% that the detection of cerebral aneurysms can be done by selecting the frame interest at the time of the contrast agent completely enter into the area of the aneurysm. Background subtraction even more optimally used because it exposes an area of the aneurysm. Morphological operations greatly affect the measurement process, because kesalan in the measurement of the error will impact on the classification and provision of color indicator.

Keywords: Cerebral Aneurysm, DSA (Digital Subtraction Angiography), Volume, Classification, Color Indicator