

## **Outcome of Patients Undergoing Hemicraniectomy for Malignant Middle Cerebral Artery Infarction: A 5 Year Retrospective Study at Perpetual Succour Hospital, Cebu City, Philippines**

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**Abstract :** Patients with malignant middle cerebral infarction (MCA) (with massive brain swelling and herniation) were reported to have a mortality rate of 80% even with the appropriate conservative medical therapy. European Trials (DECIMAL, DESTINY I, and II, HAMLET) showed significant improvement in mortality and functional outcome with hemicraniectomy. No known published local studies in the region, thus a local study is vital. This is a single center, retrospective, descriptive, cross-sectional, chart review study which includes  $\geq 18$  year-old patients with malignant MCA infarction, who underwent hemicraniectomy, and those who were given conservative medical therapy alone, from January 2008 to December 2012 at Perpetual Succour Hospital. Excluded were patients whose charts are with insufficient data, prior MCA stroke, with concomitant intracerebral hemorrhage and with other serious medical conditions or terminal illnesses. Minimum of 32 populations were needed. Data were presented in mean, standard deviation, frequency and percentage distribution. Mann Whitney U test and Chi Square test were used. P-values lesser than 0.05 alpha were considered statistically significant. A total of 672 stroke patients were admitted. 34 patients pass the inclusion criteria. 9 underwent hemicraniectomy and 25 were treated by conservative medical therapy alone. Although not statistically significant (64% vs 33%,  $p=0.112$ ) there were more patients noted improved in the conservative treatment group. Meanwhile, the Hemicraniectomy group have increased percentage of mortality (67%) ( $p=0.112$ ). There was a decreasing trend in the average NIHSS score in both groups from admission to post-op 7 days ( $p=0.198$ ,  $p=0.78$ ). A bigger multicenter prospective study is recommended to control inherent biases and limitations of a retrospective and smaller study.

**Keywords :** cerebral infarct, hemicraniectomy, ischemic stroke, malignant middle cerebral artery (MCA) infarct

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