

S1 Table: Binary logistic regression conducted with varying conditions and the respective results

| | Analysis | Result |
|---|---|--|
| 1 | Binary logistic regression with 'Enter' model selection criteria, for all the variables in their natural form | At 5% level of significance, none of the variables were statistically associated with response to treatment |
| 2 | Binary logistic regression with 'Backward Stepwise - Wald' as model selection criteria, for all variables in their natural form | <p>Coefficients of variables in all steps, except for the coefficient of <i>Site 2</i> in Step 5 (p-value = 0.044) and <i>Type 1</i> in Step 10 (p-value = 0.028) were not significant.</p> <p>Order of the variables removed from the model in each step was: <i>Type 3</i> → <i>Type 4</i> → <i>Age</i> → <i>Site 1</i> → Gender → <i>Site 4</i> → Time Since Onset → <i>Site 3</i> → <i>Type 2</i> → <i>Site 2</i>.</p> <p>The variables, <i>Number of lesions</i> and <i>Type 1</i> were not removed and remained in the final model. The p-values were 0.053 for <i>Type 1</i> and 0.064 for <i>Number of lesions</i>.</p> |
| 3 | Binary logistic regression with 'Backward Stepwise - Wald' as model selection criteria was repeated 3a) using <i>Time Since Onset</i> as categories, with other variables in their natural form and 3b) <i>Age</i> as categories, with other variables in their natural form. | <p>The explanatory power of predictor variables improved with both categorisations, resulting in a higher coefficient of determination (R² value).</p> <p>Thus, the 'Final regression model' was formulated as a binary logistic regression with backward Wald, using the variables, categorised <i>time since onset</i> (TSO), categorised <i>age</i>, other variables in their natural form and taking treatment failure as the base category.</p> |
| 4 | 'Final regression model' was fitted for the whole data set | <p>A model equation could not be formulated for the response variable 'Response to SSG' as there were no statistically significant coefficients.</p> <p>However, the variables <i>Number of Lesions</i> (p-value=0.064) and <i>Type 1</i> (p-value=0.053) persisted in the final model, with the signs of the coefficients indicating that there is a positive relationship between them and the response to SSG.</p> <p>Furthermore, the variable <i>Site 2</i> was statistically significant in four steps in the model building process and it can be said that there is an impact of the lesion site <i>Site 2</i> (trunk) to the Response to SSG. When considering the sign of coefficient of <i>Site 2</i> in all models built in each steps, it can be seen that the sign is negative. Therefore, the relationship of Lesion site <i>Site 2</i> with response to treatment is negative, i.e., a lesion on <i>Site 2</i> (trunk) was more prone for TF.</p> |
| 5 | 'Final regression model' was fitted to three age categories separately, where the classes were approximately balanced: 1-30years (65 cases), 31-50years (75 cases) and 51 to70 years (61 cases). | <p>Age category 1 to 30: The coefficients associated with the variables <i>Number of Lesions</i>, <i>Site 1</i>, <i>TSO 1</i>, <i>TSO 2</i> and <i>TSO 3</i> were significant at 5% level of significance in the final model (p-value < 0.05).</p> <p>The equation of the fitted model:</p> $\log\left(\frac{p}{1-p}\right) = -1.714 + 2.105(NoOfLesions) + 1.825(Site1) - 3.063(TSO1) - 2.535(TSO2) - 3.551(TSO3)$ <p>A positive relationship was found among the variables <i>Number of Lesions</i> and <i>Site 1</i> with Response SSG. The three variables <i>TSO 1</i>, <i>TSO 2</i> and <i>TSO 3</i> are negatively related to the variable <i>Response to SSG</i>.</p> <p>Age category 31 to 50 years: No variables were preserved in the final model. It is not possible to write a model equation as all the coefficients were not significant in last few steps.</p> <p><i>Type 2</i> is the variable removed from the model in the last step. In the Step 15, the coefficient of the variable <i>Type 2</i> is a negative value.</p> <p>The coefficients of the variables <i>Site 2</i> and <i>Site 3</i> are significant in three steps while those of <i>Site 4</i> is significant in two steps, with all negative values, resulting in a negative relationship with <i>Response to SSG</i>.</p> <p><i>TSO 1</i> is significant in one step and the variable removed at one before the last step is <i>TSO 1</i> with a positive coefficient value.</p> <p>Age category 51 to 70 years: No variables were preserved in the final model and all the coefficients were not significant in last few steps. <i>TSO 1</i> is removed from the model in the last step and <i>TSO 2</i> in the step before the last, with positive coefficients. Thus, the variables <i>TSO 1</i> and <i>TSO 2</i> have an impact on Response to SSG in this age category.</p> |