**Supplementary Digital Content 4.** Graphical analysis of the LASSO procedure with the λ penalization parameter to select variables.



**Legend.** Selection of variables to build a predictive score of early neurologic post-operative complications in the learning cohort of 1094 patients with the LASSO analysis. The y-axis shows the size of the regression coefficient and the x-axis shows the L1 norm – an inverse of the λ penalization parameter. Among the 36-preoperative clinical, radiological, tumour and operative data, 8 variables were selected.