

# Supplementary material

**Table 1 Subgroup analyses of prognostic factors for an unfavourable outcome (GOS score of 1-4) 30 days after discharge in adults with viral meningitis**

| Prognostic factor                        | Modified Poisson regression       |                                   |
|--|-----------------------------------|-----------------------------------|
|  | Premorbid full-time occupation    | GOS scores not carried forward    |
|  | Adjusted <sup>a</sup> RR (95% CI) | Adjusted <sup>a</sup> RR (95% CI) |
| Age, years                               |                                   |                                   |
| 18-30                                    | Reference                         | Reference                         |
| 31-50                                    | 1.26 (0.93-1.70)                  | 1.31 (0.99-1.73)                  |
| ≥51                                      | 0.92 (0.51-1.66)                  | 1.23 (0.83-1.81)                  |
| Sex                                      |                                   |                                   |
| Male                                     | Reference                         | Reference                         |
| Female                                   | 1.47 (1.09-1.98)                  | 1.35 (1.04-1.75)                  |
| Immunosuppression                        |                                   |                                   |
| No                                       | Reference                         | Reference                         |
| Yes                                      | 1.07 (0.48-2.38)                  | 1.13 (0.73-1.76)                  |
| Duration of symptoms, days               |                                   |                                   |
| 0-1                                      | Reference                         | Reference                         |
| ≥2                                       | 1.14 (0.83-1.55)                  | 1.04 (0.80-1.37)                  |
| Triad of signs and symptoms <sup>b</sup> |                                   |                                   |
| No                                       | Reference                         | Reference                         |
| Yes                                      | 0.93 (0.68-1.27)                  | 0.96 (0.73-1.27)                  |
| CSF leukocyte count, cells/μL            |                                   |                                   |
| 0-100                                    | Reference                         | Reference                         |
| 101-500                                  | 0.78 (0.55-1.10)                  | 0.82 (0.61-1.09)                  |
| ≥501                                     | 0.74 (0.44-1.25)                  | 0.88 (0.57-1.35)                  |
| CSF protein, g/L                         |                                   |                                   |
| 0.0-0.5                                  | Reference                         | Reference                         |
| 0.6-1.0                                  | 1.12 (0.80-1.56)                  | 1.13 (0.85-1.51)                  |
| ≥1.1                                     | 1.02 (0.61-1.69)                  | 0.91 (0.60-1.37)                  |
| Aetiology                                |                                   |                                   |
| Unidentified pathogen                    | Reference                         | Reference                         |
| Enteroviruses                            | 1.47 (1.00-2.16)                  | 1.37 (0.97-1.92)                  |
| Herpes simplex virus type 2              | 1.78 (1.06-2.98)                  | 1.56 (1.01-2.39)                  |
| Varicella-zoster virus                   | 1.58 (0.89-2.83)                  | 1.44 (0.94-2.22)                  |
| Miscellaneous viruses                    | 1.71 (0.75-3.90)                  | 1.57 (0.72-3.42)                  |
| Dexamethasone for bacterial meningitis   |                                   |                                   |
| No                                       | Reference                         | Reference                         |
| Yes                                      | 1.12 (0.82-1.54)                  | 1.12 (0.85-1.48)                  |

<sup>a</sup>Adjusted for all prognostic factors listed in the table.

<sup>b</sup>Triad of headache, neck stiffness and hyperacusis or photophobia.

Abbreviations: RR = relative risk; CI = confidence interval.

**Table 2 Time until antivirals and unfavourable outcome (GOS score of 1-4) 30 days after discharge in adults with meningitis caused by herpes simplex virus type 2 or varicella-zoster virus**

| Time until treatment with acyclovir or valacyclovir, hours | Unfavourable outcome | Modified Poisson regression |                                   |
|--|----------------------|-----------------------------|-----------------------------------|
|  | n/N (%)              | Crude RR (95% CI)           | Adjusted <sup>a</sup> RR (95% CI) |
| ≤8   | 45/174 (26)          | Reference                   | Reference                         |
| 8-16   | 9/53 (17)            | 0.66 (0.34-1.25)            | 0.61 (0.30-1.23)                  |
| ≥17  | 22/80 (28)           | 1.06 (0.69-1.64)            | 0.86 (0.51-1.43)                  |

<sup>a</sup>Adjusted for age (18-30, 31-50, ≥51 years), sex (male, female), immunosuppression (yes, no), triad of headache, neck stiffness, hyperacusis or photophobia (yes, no), CSF leukocyte count (0-100, 101-500, ≥501 cells/μL), CSF protein (0.0-0.5, 0.6-1.0, ≥1.1 g/l), aetiology (HSV-2, VZV) and treatment with dexamethasone for bacterial meningitis (yes, no).

262 episodes were used in the adjusted analysis due to missing values.

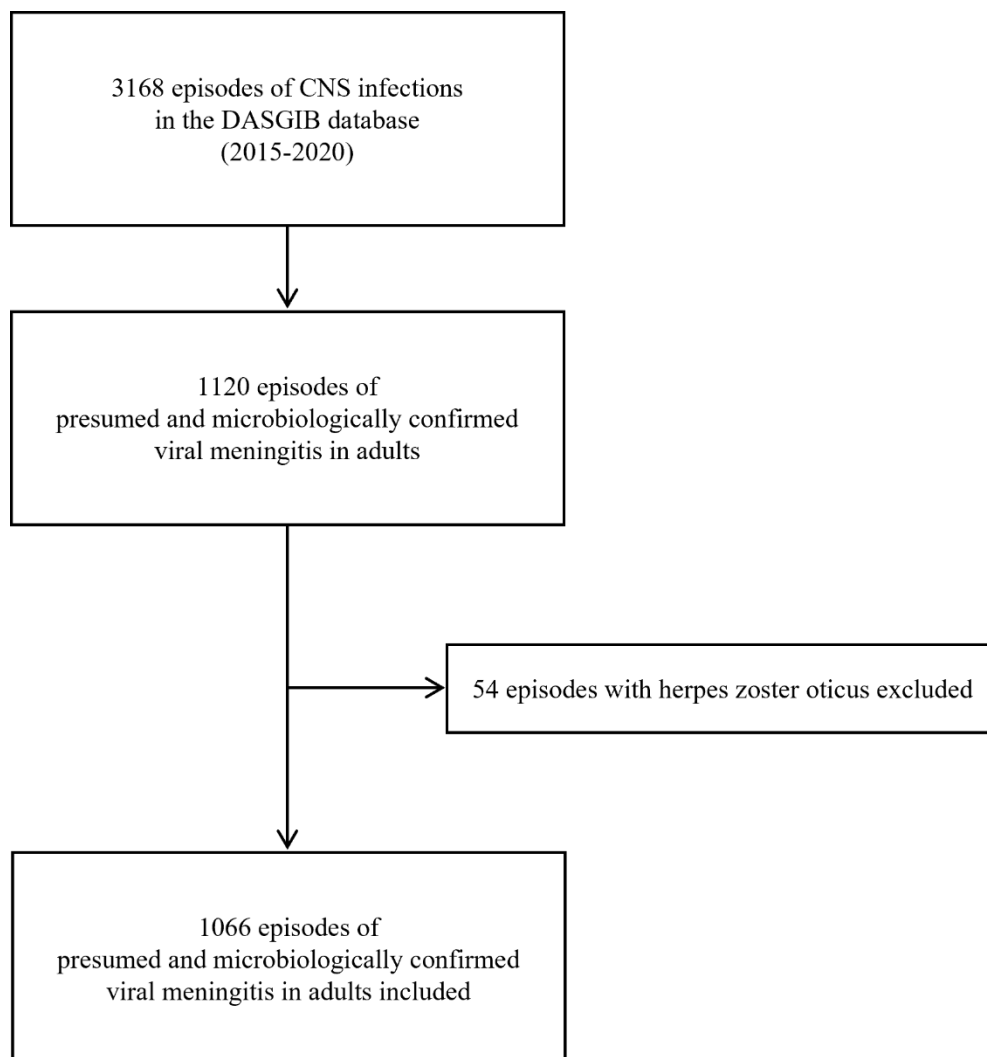
Abbreviations: RR = relative risk; CI = confidence interval.

**Table 3 Time until antivirals and unfavourable outcome (GOS score of 1-4) 30 days after discharge in adults with meningitis caused by herpes simplex virus type 2 or varicella-zoster virus stratified by immune status**

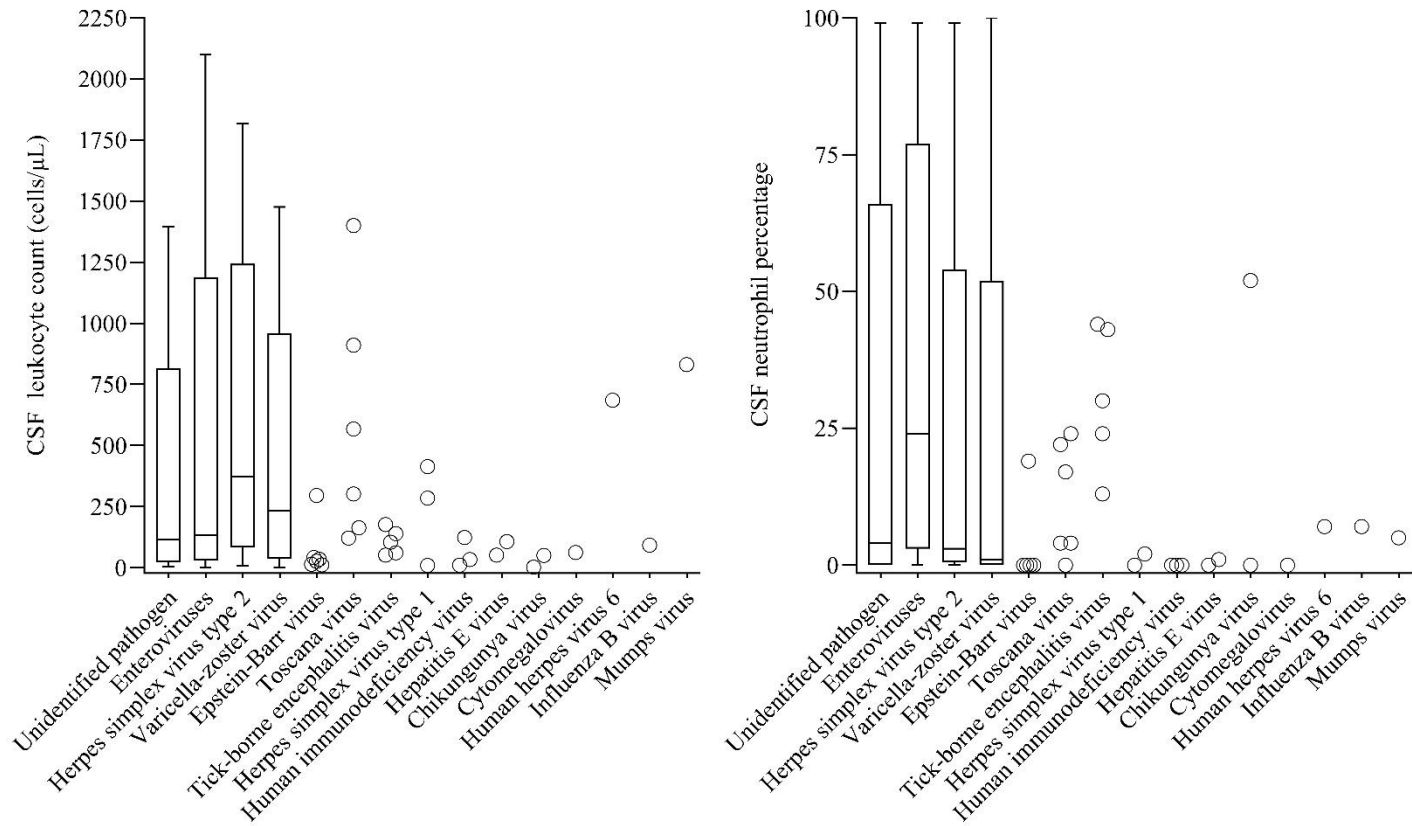
| Immunosuppression | Unfavorable outcome by time until treatment with acyclovir or valacyclovir |            |            | p value |
|-------------------|--|------------|------------|---------|
|                   | ≤8 hours   | 8-16 hours | ≥17 hours  |         |
| No                | 38/150 (25)  | 8/45 (18)  | 18/70 (26) | 0.51    |
| Yes               | 7/24 (29)  | 1/8 (13)   | 4/10 (40)  | 0.55    |

Data are presented as n/N (%).

**Figure 1 Flow chart of the study population**



**Figure 2 CSF leukocyte count and neutrophil percentage in adults with viral meningitis**



Box is interquartile range, horizontal line is median, and whiskers are range.