**Appendix 4:** Clinical symptoms and prediction of neurodiagnostic abnormalities·

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| **Symptom Cluster** | **EEG**(OR, *p* value, 95%CI) | **MRI**(OR, *p* value, 95%CI) | **LP**(OR, *p* value, 95%CI) | **Any Neurodiagnostic**(OR, *p* value, 95%CI) |
| **Mood** *Social withdrawal* *Loss of Acquired Skills* *Mutism* *Whispered speech* | 1.22 (0.67, 0.49-3.03)--0.93 (0.91, 0.24-3.51)1.72 (0.75, 0.42-7.08) | 1.55 (0.40, 0.56-4.33)--1.85 (0.46, 0.35-9.68)1.49 (0.59, 0.36-6.23) | 1.79 (0.36, 0.51-6.35)--1.19 (0.84, 0.22-6.52)3.34 (0.26, 0.39-30.01) | 1.56 (0.29 (0.69-3.57)--1.65 (0.44, 0.46-5.99)1.65 (0.41, 0.51-5.38) |
| **Cognitive/Executive Function***Impaired attention* *Reduced eye contact* *Confusion/disorganization* *Memory impairment* | **2.37 (0.05, 1.01-5.63)**0.66 (0.59, 0.14-3.10)1.35 (0.80, 0.13-13.89)**9.12 (0.04, 1.11-75.27)**1.94 (0.36, 0.47-7.91) | **3.83 (0.01, 1.30-11.26)**1.97 (0.55, 0.21-18.33)1.2 (0.88, 0.12-12.41)3.75 (0.11, 0.75-18.74)5.81 (0.11, 0.69-48.92) | **10.99 (0.02, 1.46-85.57)**1.45 (0.75, 0.15-13.73)0.83 (0.87, 0.08-8.73)**8.69 (0.05, 1.02-73.99)****10.45 (0.03, 1.23-88.60)** | **2.71 (0.01, 1.28-5.72)**1.14 (0.87, 0.25-5.19)2.18 (0.51, 0.22-21.98)**7.23 (0.01, 1.51-34.67)****5.23 (0.04, 1.07-25.46)** |
| **Motor***Abulia/avolition* *Stereotypy* *Tics* *Catatonia* *Freezing/bradykinesia* | 1.25 (0.38, 0.76-2.07)1.07 (0.91, 0.34-3.31)0.95 (0.93, 0.32-2.87)0.74 (0.66, 0.20-2.75)3.86 (0.09, 0.78-19.18)1.69 (0.42, 0.47-6.08) | 1.35 (0.26, 0.79-2.29)1.50 (0.52, 0.44-5.09)0.95 (0.94, 0.30-3.01)0.97 (0.97, 0.16-5.92)3.38 (0.14, 0.67-16.96)2.09 (0.30, 0.51-8.55) | 1.13 (0.69, 0.62-2.06)1.81 (0.43, 0.42-7.83)0.55 (0.38, 0.14-2.13)0.91 (0.89, 0.21-4.01)1.29 (0.74, 0.29-5.61)2.17 (0.36, 0.41-11.42) | **1.69 (0.02, 1.09-2.61)**1.76 (0.27, 0.64-4.96)1.17 (0.74, 0.46-3.02)0.81 (0.69, 0.27-2.39)**4.18 (0.04, 1.08-16.21)****4.02 (0.04, 1.04-15.63)** |
| **Behavioral** *Apathy/withdrawal* *Hyperactivity* *Inappropriate laughter* *Aggression/agitation* | 0.99 (0.99, 0.57-1.75)1.95 (0.56, 0.20-18.69)0.78 (0.76, 0.14-4.24)0.67 (0.49, 0.21-2.10)0.96 (0.95, 0.28-3.29) | 0.94 (0.84, 0.52-1.69)1.73 (0.64, 0.18-16.72)1.42 (0.65, 0.31-6.53)0.95 (0.93, 0.28-3.22)0.16 (0.09, 0.02-1.39) | 1.13 (0.73, 0.57-2.24)1.19 (0.88, 0.12-11.77)3.52 (0.10, 0.79-15.81)0.76 (0.71, 0.18-3.26)0.26 (0.22, 0.03-2.34) | 1.1 (0.69, 0.68-1.78)3.14 (0.32, 0.33-29.59)1.28 (0.70, 0.35-4.68)1.11 (0.84, 0.41-2.99)0.63 (0.41, 0.21-1.92) |
| **Sleep** *Insomnia* *Circadian rhythm alteration* | 0.99 (0.98, 0.45-2.17)0.59 (0.43, 0.16-2.15)1.47 (0.51, 0.46-4.63) | 1.32 (0.51, 0.57-3.03)0.69 (0.59, 0.17-2.69)2.31 (0.16, 0.72-7.48) | 1.14 (0.78, 0.44-8.96)0.61 (0.53, 0.13-2.82)1.92 (0.34, 0.49-7.44) | 1.29 (0.46, 0.66-2.56)0.88 (0.83, 0.27-2.86)1.88 (0.21, 0.70-4.99) |
| **Bowel/Bladder** *Incontinence* *Urinary retention* | 1.29 (0.53, 0.59-2.80)0.67 (0.48, 0.22-2.04)2.53 (0.11, 0.79-7.98) | 1.92 (0.13, 0.83-4.40)1.35 (0.61, 0.42-4.27)2.78 (0.09, 0.82-9.38) | 2.01 (0.16, 0.77-5.29)1.26 (0.74, 0.33-4.75)3.37 (0.10, 0.78-14.46) | 1.63 (0.16, 0.83-3.19)1.12 (0.81, 0.44-2.88)**3.32 (0.02, 1.2-9.13)** |
| **Neurologic** *Autonomic Dysfunction* *Seizure* *Focal neurologic deficit* *Transient ischemic attack* | **3.63 (0.03, 1.11-11.86)**1.86 (0.45, 0.36-9.66)2.69 (0.49, 0.16-45.57)5.25 (0.19, 0.44-61.98)2.53 (0.52, 0.15-42.78) | **3.51 (0.4, 1.03-11.97)**1.5 (0.67, 0.24-9.46)2.87 (0.47, 0.17-48.75)6.0 (0.16, 0.50-71.33)2.87 (0.47, 0.17-48.75) | **4.16 (0.03, 1.15-15.09)**1.88 (0.51, 0.29-12.14)4.3 (0.32, 0.25-74.78)9.33 (0.08, 0.76-114.40)- | 2.48 (0.12, 0.79-7.79)1.50 (0.59, 0.34-6.70)1.59 (0.75, 0.09-26.54)3.11 (0.36, 0.27-36.01)1.54 (0.77, 0.09-25.57) |
| **Psychiatric** *Anxiety* *OCD* *New autistic features* *Anorexia* *Emotional lability*  | 0.97 (0.92, 0.57-1.67)3.31 (0.28, 0.38-29.05)0.59 (0.42, 0.16-2.13)-1.94 (0.36, 0.47-7.91)0.54 (0.32, 0.16-1.81) | 1.44 (0.24, 0.78-2.63)2.92 (0.34, 0.33-25.81)1.24 (0.72, 0.38-4.11)-2.71 (0.23, 0.53-13.76)1.26 (0.73, 0.35-4.57) | 1.36 (0.39, 0.68-2.71)1.94 (0.56, 0.21-17.71)1.18 (0.81, 0.29-4.72)-4.26 (0.19, 0.49-36.66)0.70 (0.62, 0.17-2.88) | 1.28 (0.31, 0.79-2.07)1.69 (0.48, 0.39-7.14)1.09 (0.87, 0.40-2.95)-**3.76 (0.05, 1.02-14.64)**1.19 (0.74, 0.42-3.36) |

*Legend:* electroencephalogram (EEG), lumbar puncture (LP), magnetic resonance imaging (MRI), obsessive compulsive disorder (OCD), odds ratio (OR).