**Supplemental data**

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**Fig. e1** – **Peripheral cytokines/chemokines/growth factor in COVID-19 and controls patient.** Bar plot representation (mean ± SEM) of IL-1RA, IL-6, CCL2, CXCL8, CXCL9, CXCL10, CXCL12, HGF and VEGF-A expression in the serum of patient with (red circles, n=16) or without (black dot, n=45, combination of MS, IND and NIND groups) SARS-CoV-2 infection. Statistical significance was calculated using Mann-Whitney test (p:\* ≤ 0.05 \*\*\* ≤ 0.001, \*\*\*\* ≤ 0.001).



**Fig**. **e2 – CXCL8, CCL2 and VEGF-A synthesis in the CSF. (A)** CXCL8 and VEGF-A expression (mean ± SEM) according to neurological diagnosis associated to COVID-19. **(B)** Linear regression of level of CCL2 (left panel) and VEGF-A (Right panel) in the CSF and the serum (n=16). **(C)** CSF/serum index for CXCL8, VEGF-A and CCL2 in moderate (yellow circle, n=5) and severe (red circles, n=11) SARS-CoV-2 patients compared to NIND (blue circles, n=15). Dotted line represent positivity threshold for CXCL8 determined by receiver operating curve  **(D)** Linear regression of level of VEGF-A in the CSF in function of CXCL8 expression in the CSF (n=22).

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| --- | --- | --- |
| **Main Neurological diagnosis** | **IND (n=21)** | **NIND (n=19)** |
| **Headache** | HaNDL syndrome (ansient headache and neurologic deficits with cerebrospinal fluid lymphocytosis) (1) | Headache from undetermined cause (2)Migraine (1) |
| **Vascular/Stroke** | Vasculitis of the CNS (1) | Lacunar stroke (1)Ischemic stroke (1) |
| **Encephalitis/ Meningitis** | Meningoencephalitis of unknown origin (4)Bacterial meningoencephalitis (2)Tick borne meningoencephalitis (2)Lyme’s disease (1)HSV-1 meningoencephalitis (1)Neurosyphilis (2)Paraneoplastic cerebellar degeneration (1)Anti-NMDA limbic encephalitis (1)Autoimmune opsoclonus myoclonus (1) | - |
| **Neuro-degenerative disease** | - | Lewy body disease (1)Parkinsonian syndrome (2) |
| **Encephalopathy** | - | - |
| **Peripheral nerve** | Guillain Barré Syndrome (1)Inflammatory mononeuritis multiplex (1)CANOMAD syndrome (1) | Radicular conflict (1)Post-radiation radiculopathy (1)Trigeminal hypoesthesia of unknown origin (1)Idiopathic peripheral facial paralysis (1) |
| **Epilepsy** | - | Isolated epileptic seizure (1) |
| **Else** | Neurosarcoidosis (1) | Pseudotumor cerebri (1)Distal paraesthesia of unknown origin (1)Major depressive state (2)Resolved Vogt-Koyanagi Harada disease (1)Functional neurological symptoms (1) |

**Table. e1 – Detailed diagnosis of control study patients.** CANOMAD : Chronic Ataxic Neuropathy Ophthalmoplegia IgM paraprotein Cold Agglutinins Disialosyl antibodies