การดูแลผู้ป่วยโรคระบบประสาทภูมิคุ้มกันในช่วงการแพร่ระบาดของโรค COVID-19

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Patients with MS, NMO, MG, CIDP, myositis are susceptible to COVID-19 infection?

Immunosuppressant or DMT increased risk of COVID-19 infection?

How to advice these patients in the COVID-19 pandemic situation

How to manage these patients if they have COVID-19 infection
COVID-19 & Neuroimmunological disease

- There is **no evidence** that patients with MS, NMO, MG, CIDP and myositis are susceptible to COVID-19 infection.
- But these patients who are on immunosuppressants or DMT **may increase the risk of infection**.
- Generally, infection can **induce relapse** in immune-mediated disease or cause **new post-infectious symptoms** through molecular mimicry or enhanced inflammatory cytokines.
How to advice these patients in the COVID-19 pandemic situation

1. Wash and sanitize your hands frequently
2. Disinfect high-touch surfaces
3. Wear a mask if you're sick or advised to
4. Self-isolate and practice social distancing
5. Cough into your elbow or tissues and dispose of tissues right away
6. Avoid non-essential and international travel

**2. Continue** to use the immunosuppressants or DMTs

3. Consider themselves as the high risks of infection
If the patients have the indication to start immunosuppressants or DMTs, they should be initiated these **drugs according to the indication or disease activity.**
NMOSD patients

Should be *initiated or continue* to use standard Rx such as prednisolone, azathioprine, methotrexate or mycophenolate especially who have AQP4-IgG or MOG-IgG positive since they are high risk for disease relapse.

For rituximab or other anti-CD20 Rx may *moderately increase risk of COVID-19 infection* → consider to *avoid initiating* this medication at the pandemic situation.

But if rituximab is necessary or due date for another cycle → these patients should be strictly isolated as the *high risk patients*
MS patients

It is safe to **initiate or continue** to use first-line standard DMTs such as Interferon-beta, teriflunomide, glatiramer acetate. The risk of infection may be related to lymphocyte counts.

**Fingolimod** may moderately increase the risk of infection, but the risk of MS relapse or rebound may be higher in patients who are already on fingolimod. In case of severe infection and fingolimod is held. Re-initiation of fingolimod need to be done according to **initiation protocol**.
**Natalizumab** can be used safely, but extended interval dosing is recommended to reduce the chance of COVID-19 encephalitis.

**Alemtuzumab and cladribine** increase the risk of infection especially within the first 3-6 after administration. May postpone to initiate these medication during the pandemic or postpone the second cycles of alemtuzumab to 18 months interval.

**Rituximab or ocrelizumab** recommendation as the NMOSD.
MG/LEMS, CIDP or myositis patients

Should be **initiated or continue** to use standard Rx such as prednisolone, azathioprine, methotrexate or mycophenolate. But patients are needed to be aware of increased risk of infection as in NMOSD patients.

**Rituximab** recommendation as the NMOSD.
How to manage neuroimmunological patients who are infected with SARS-CoV-2
Asymptomatic or Mild disease

Risk factors:
- Age > 60
- COPD
- CKD
- CVA
- HT
- Uncontrolled DM
- BMI > 35
- Immunocompromise or lymph count < 1000

NO

Continue immunosuppressants or DMTs, No anti-viral drugs

YES

May consider continue immunosuppressants or DMTs and aware of drug interaction with anti-viral drugs. No hydroxychloroquine in MG

Symptomatic drugs such as baclofen, pyridostigmine or 3,4 diaminopyridine can be used
Moderate to severe infection

May consider stop immunosuppressants or DMTs, No hydroxychloroquine in MG

Some data showed the benefit of IL-6R inhibitor or S1PR modulator may have benefit in COVID-19 infection. But no strongly enough to be use as the immunosuppressant therapy in all patients.

Symptomatic drugs such as baclofen, pyridostigmine or 3,4 diaminopyridine can be used