**E-References**

1. Yan CH, Faraji F, Prajapati DP, Boone CE, DeConde AS. Association of chemosensory dysfunction and Covid-19 in patients presenting with influenza-like symptoms. Int Forum Allergy Rhinol 2020.
2. Lechien JR, Chiesa-Estomba CM, De Siati DR, et al. Olfactory and gustatory dysfunctions as a clinical presentation of mild-to-moderate forms of the coronavirus disease (COVID-19): a multicenter European study. Eur Arch Otorhinolaryngol 2020.
3. Hwang C. Olfactory Neuropathy in Severe Acute Respiratory Syndrome: Report of A Case. Acta Neurologica Taiwanica 2006;15:26.
4. Andries K, Pensaert M. Immunofluorescence studies on the pathogenesis of hemagglutinating encephalomyelitis virus infection in pigs after oronasal inoculation. American journal of veterinary research 1980;41:1372-1378.
5. Bleau C, Filliol A, Samson M, Lamontagne L. Brain invasion by mouse hepatitis virus depends on impairment of tight junctions and beta interferon production in brain microvascular endothelial cells. Journal of virology 2015;89:9896-9908.
6. Skinner D, Marro BS, Lane TE. Chemokine CXCL10 and coronavirus-induced neurologic disease. Viral immunology 2019;32:25-37.
7. Weiss SR, Leibowitz JL. Coronavirus pathogenesis. Advances in virus research: Elsevier, 2011: 85-164.
8. Matthews A, Weiss S, Paterson Y. Murine hepatitis virus--a model for virus-induced CNS demyelination. Journal of neurovirology 2002;8:76-85.
9. Varga Z, Flammer AJ, Steiger P, et al. Endothelial cell infection and endotheliitis in COVID-19. Lancet 2020;395:1417-1418.
10. Elkind MS, Carty CL, O'Meara ES, et al. Hospitalization for infection and risk of acute ischemic stroke: the Cardiovascular Health Study. Stroke 2011;42:1851-1856.
11. Warren-Gash C, Smeeth L, Hayward AC. Influenza as a trigger for acute myocardial infarction or death from cardiovascular disease: a systematic review. The Lancet infectious diseases 2009;9:601-610.
12. Boehme AK, Luna J, Kulick ER, Kamel H, Elkind MS. Influenza‐like illness as a trigger for ischemic stroke. Annals of clinical and translational neurology 2018;5:456-463.
13. Cowan LT, Alonso A, Pankow JS, et al. Hospitalized infection as a trigger for acute ischemic stroke: the Atherosclerosis Risk in Communities Study. Stroke 2016;47:1612-1617.
14. Dalager-Pedersen M, Søgaard M, Schønheyder HC, Nielsen H, Thomsen RW. Risk for myocardial infarction and stroke after community-acquired bacteremia: a 20-year population-based cohort study. Circulation 2014;129:1387-1396.
15. Smeeth L, Thomas SL, Hall AJ, Hubbard R, Farrington P, Vallance P. Risk of myocardial infarction and stroke after acute infection or vaccination. New England Journal of Medicine 2004;351:2611-2618.
16. Clar C, Oseni Z, Flowers N, Keshtkar‐Jahromi M, Rees K. Influenza vaccines for preventing cardiovascular disease. Cochrane Database of Systematic Reviews 2015.
17. Mehta P, McAuley DF, Brown M, Sanchez E, Tattersall RS, Manson JJ. COVID-19: consider cytokine storm syndromes and immunosuppression. The Lancet 2020.
18. Robba C, Bonatti G, Battaglini D, Rocco PR, Pelosi P. Mechanical ventilation in patients with acute ischaemic stroke: from pathophysiology to clinical practice. Critical Care 2019;23:388.
19. Chen G, Wu D, Guo W, et al. Clinical and immunologic features in severe and moderate Coronavirus Disease 2019. The Journal of Clinical Investigation 2020.
20. Tang N, Li D, Wang X, Sun Z. Abnormal Coagulation parameters are associated with poor prognosis in patients with novel coronavirus pneumonia. Journal of Thrombosis and Haemostasis 2020.
21. Magro C, Mulvey JJ, Berlin D, et al. Complement associated microvascular injury and thrombosis in the pathogenesis of severe COVID-19 infection: a report of five cases. Transl Res 2020.
22. Zheng Y-Y, Ma Y-T, Zhang J-Y, Xie X. COVID-19 and the cardiovascular system. Nature Reviews Cardiology 2020:1-2.
23. Yu C, Wong RS, Wu E, et al. Cardiovascular complications of severe acute respiratory syndrome. Postgraduate medical journal 2006;82:140-144.
24. Surgery AAoO-HaN. AAO-HNS: Anosmia, Hyposmia, and Dysgeusia Symptoms of Coronavirus Disease.
25. Vaira LA, Salzano G, Deiana G, De Riu G. Anosmia and ageusia: common findings in COVID-19 patients. Laryngoscope 2020.
26. Hopkins CK, N. Loss of sense of smell as marker of COVID-19 infection.
27. Mao L, Jin H, Wang M, et al. Neurologic Manifestations of Hospitalized Patients With Coronavirus Disease 2019 in Wuhan, China. JAMA Neurol 2020.
28. Li Y, Wang M, Zhou Y, et al. Acute cerebrovascular disease following COVID-19: a single center, retrospective, observational study. 2020.
29. Combes A, Hajage D, Capellier G, et al. Extracorporeal membrane oxygenation for severe acute respiratory distress syndrome. New England Journal of Medicine 2018;378:1965-1975.
30. Kotfis K, Williams Roberson S, Wilson JE, Dabrowski W, Pun BT, Ely EW. COVID-19: ICU delirium management during SARS-CoV-2 pandemic. Crit Care 2020;24:176.
31. Chen T, Wu D, Chen H, et al. Clinical characteristics of 113 deceased patients with coronavirus disease 2019: retrospective study. bmj 2020;368.
32. Medicine NHCSAoTC. Diagnosis and Treatment Protocol for Novel Coronavirus Pneumonia (Trial Version 7). WHO.
33. Association AH. New COVID-19 patient data registry will provide insights to care and adverse cardiovascular outcomes.
34. Malone K, Amu S, Moore AC, Waeber C. The immune system and stroke: from current targets to future therapy. Immunol Cell Biol 2019;97:5-16.
35. Association As. Coronavirus (COVID-19): Tips for Dementia Caregivers.
36. Benditt JO, Boitano LJ. Pulmonary issues in patients with chronic neuromuscular disease. American journal of respiratory and critical care medicine 2013;187:1046-1055.
37. Harraf F, Ward K, Man W, et al. Transcranial magnetic stimulation study of expiratory muscle weakness in acute ischemic stroke. Neurology 2008;71:2000-2007.
38. Ward K, Rao P, Reilly CC, et al. Poor cough flow in acute stroke patients is associated with reduced functional residual capacity and low cough inspired volume. BMJ open respiratory research 2017;4:e000230.
39. Papa S, Brundin P, Fung V, et al. Impact of the COVID-19 pandemic on Parkinson's disease and movement disorders. Movement disorders: official journal of the Movement Disorder Society 2020.
40. Filatov A, Sharma P, Hindi F, Espinosa PS. Neurological Complications of Coronavirus Disease (COVID-19): Encephalopathy. Cureus 2020;12:e7352.
41. CDC. Coronavirus Disease 2019 (COVID-19): People Who Are at Higher Risk for Severe Illness.
42. Society NMS. Disease Modifying Treatment Guidelines for Coronavirus (COVID-19).
43. Conforti C, Giuffrida R, Dianzani C, Di Meo N, Zalaudek I. COVID-19 and psoriasis: Is it time to limit treatment with immunosuppressants? A call for action. Dermatol Ther 2020:e13298.
44. D'Antiga L. Coronaviruses and immunosuppressed patients. The facts during the third epidemic. Liver Transpl 2020.
45. Guillen E, Pineiro GJ, Revuelta I, et al. Case report of COVID-19 in a kidney transplant recipient: Does immunosuppression alter the clinical presentation? Am J Transplant 2020.
46. Barzegar M, Mirmosayyeb O, Nehzat N, et al. COVID-19 infection in a patient with multiple sclerosis treated with fingolimod. Neurology - Neuroimmunology Neuroinflammation 2020;7:e753.
47. Klok FA, Kruip M, van der Meer NJM, et al. Incidence of thrombotic complications in critically ill ICU patients with COVID-19. Thromb Res 2020.
48. Bowles L, Platton S, Yartey N, et al. Lupus Anticoagulant and Abnormal Coagulation Tests in Patients with Covid-19. New England Journal of Medicine 2020.
49. Baig AM, Khaleeq A, Ali U, Syeda H. Evidence of the COVID-19 Virus Targeting the CNS: Tissue Distribution, Host-Virus Interaction, and Proposed Neurotropic Mechanisms. ACS Chem Neurosci 2020;11:995-998.
50. Wu Z, McGoogan JM. Characteristics of and important lessons from the coronavirus disease 2019 (COVID-19) outbreak in China: summary of a report of 72 314 cases from the Chinese Center for Disease Control and Prevention. Jama 2020.
51. Wu Q, Zhou L, Sun X, et al. Altered lipid metabolism in recovered sars patients twelve years after infection. Scientific reports 2017;7:1-12.
52. Benros ME, Sorensen HJ, Nielsen PR, Nordentoft M, Mortensen PB, Petersen L. The Association between Infections and General Cognitive Ability in Young Men - A Nationwide Study. PLoS One 2015;10:e0124005.
53. Holmes C, El-Okl M, Williams AL, Cunningham C, Wilcockson D, Perry VH. Systemic infection, interleukin 1beta, and cognitive decline in Alzheimer's disease. J Neurol Neurosurg Psychiatry 2003;74:788-789.
54. Dunn N, Mullee M, Perry VH, Holmes C. Association between dementia and infectious disease: evidence from a case-control study. Alzheimer Dis Assoc Disord 2005;19:91-94.
55. Bucks RS, Gidron Y, Harris P, Teeling J, Wesnes KA, Perry VH. Selective effects of upper respiratory tract infection on cognition, mood and emotion processing: a prospective study. Brain Behav Immun 2008;22:399-407.
56. Manabe T, Mizukami K, Akatsu H, et al. Influence of pneumonia complications on the prognosis of patients with autopsy-confirmed Alzheimer's disease, dementia with Lewy bodies, and vascular dementia. Psychogeriatrics 2016;16:305-314.
57. Kamer AR, Morse DE, Holm-Pedersen P, Mortensen EL, Avlund K. Periodontal inflammation in relation to cognitive function in an older adult Danish population. J Alzheimers Dis 2012;28:613-624.
58. Ding Y, Ren J, Yu H, Yu W, Zhou Y. Porphyromonas gingivalis, a periodontitis causing bacterium, induces memory impairment and age-dependent neuroinflammation in mice. Immun Ageing 2018;15:6.
59. Michalowicz BS, Hodges JS, Lussky RC, et al. Maternal periodontitis treatment and child neurodevelopment at 24 to 28 months of age. Pediatrics 2011;127:e1212-1220.
60. Mohangi GU, Singh-Rambirich S, Volchansky A. Periodontal disease: Mechanisms of infection and inflammation and possible impact on miscellaneous systemic diseases and conditions. SADJ 2013;68:462, 464-467.
61. Lee YT, Lee HC, Hu CJ, et al. Periodontitis as a Modifiable Risk Factor for Dementia: A Nationwide Population-Based Cohort Study. J Am Geriatr Soc 2017;65:301-305.
62. Semmler A, Widmann CN, Okulla T, et al. Persistent cognitive impairment, hippocampal atrophy and EEG changes in sepsis survivors. J Neurol Neurosurg Psychiatry 2013;84:62-69.
63. Sasannejad C, Ely EW, Lahiri S. Long-term cognitive impairment after acute respiratory distress syndrome: a review of clinical impact and pathophysiological mechanisms. Critical Care 2019;23:352.
64. Chacón-Aguilar R, Osorio-Cámara JM, Sanjurjo-Jimenez I, González-González C, López-Carnero J, Pérez-Moneo-Agapito B. COVID-19: Fever syndrome and neurological symptoms in a neonate. Anales de Pediatría (English Edition) 2020.
65. Waubant E, Lucas R, Mowry E, et al. Environmental and genetic risk factors for MS: an integrated review. Annals of clinical and translational neurology 2019;6:1905-1922.
66. MCDONALD D, BUTTERY J, PIKE M. Neurological complications of Kawasaki disease. Archives of Disease in Childhood 1998;79:198-198.
67. Jones VG, Mills M, Suarez D, et al. COVID-19 and Kawasaki Disease: Novel Virus and Novel Case. Hosp Pediatr 2020.
68. Cui J, Li F, Shi ZL. Origin and evolution of pathogenic coronaviruses. Nat Rev Microbiol 2019;17:181-192.
69. Lau SK, Li KS, Tsang AK, et al. Genetic characterization of Betacoronavirus lineage C viruses in bats reveals marked sequence divergence in the spike protein of pipistrellus bat coronavirus HKU5 in Japanese pipistrelle: implications for the origin of the novel Middle East respiratory syndrome coronavirus. Journal of virology 2013;87:8638-8650.
70. Hofmann H, Pyrc K, van der Hoek L, Geier M, Berkhout B, Pöhlmann S. Human coronavirus NL63 employs the severe acute respiratory syndrome coronavirus receptor for cellular entry. Proceedings of the National Academy of Sciences 2005;102:7988-7993.
71. Weiss SR, Navas-Martin S. Coronavirus pathogenesis and the emerging pathogen severe acute respiratory syndrome coronavirus. Microbiol Mol Biol Rev 2005;69:635-664.
72. Arabi Y, Harthi A, Hussein J, et al. Severe neurologic syndrome associated with Middle East respiratory syndrome corona virus (MERS-CoV). Infection 2015;43:495-501.
73. Algahtani H, Subahi A, Shirah B. Neurological Complications of Middle East Respiratory Syndrome Coronavirus: A Report of Two Cases and Review of the Literature. Case Rep Neurol Med 2016;2016:3502683.
74. Al-Hameed FM. Spontaneous intracranial hemorrhage in a patient with Middle East respiratory syndrome corona virus. Saudi Med J 2017;38:196-200.
75. Nilsson A, Edner N, Albert J, Ternhag A. Fatal encephalitis associated with coronavirus OC43 in an immunocompromised child. Infect Dis (Lond) 2020;52:419-422.
76. Yeh EA, Collins A, Cohen ME, Duffner PK, Faden H. Detection of coronavirus in the central nervous system of a child with acute disseminated encephalomyelitis. Pediatrics 2004;113:e73-76.
77. Koyuncu OO, Hogue IB, Enquist LW. Virus infections in the nervous system. Cell Host Microbe 2013;13:379-393.
78. Vaira LA, Deiana G, Fois AG, et al. Objective evaluation of anosmia and ageusia in COVID-19 patients: Single-center experience on 72 cases. Head Neck 2020.
79. Eliezer M, Hautefort C, Hamel A-L, et al. Sudden and Complete Olfactory Loss Function as a Possible Symptom of COVID-19. JAMA Otolaryngology–Head & Neck Surgery.
80. Guan W-j, Ni Z-y, Hu Y, et al. Clinical characteristics of coronavirus disease 2019 in China. New England Journal of Medicine 2020.
81. Tian S, Hu N, Lou J, et al. Characteristics of COVID-19 infection in Beijing. J Infect 2020;80:401-406.
82. Yang X, Yu Y, Xu J, et al. Clinical course and outcomes of critically ill patients with SARS-CoV-2 pneumonia in Wuhan, China: a single-centered, retrospective, observational study. Lancet Respir Med 2020.
83. Wang D, Hu B, Hu C, et al. Clinical Characteristics of 138 Hospitalized Patients With 2019 Novel Coronavirus-Infected Pneumonia in Wuhan, China. Jama 2020.
84. Helms J, Kremer S, Merdji H, et al. Neurologic Features in Severe SARS-CoV-2 Infection. New England Journal of Medicine 2020.
85. Beyrouti R, Adams ME, Benjamin L, et al. Characteristics of ischaemic stroke associated with COVID-19. Journal of Neurology, Neurosurgery &amp; Psychiatry 2020:jnnp-2020-323586.
86. Oxley TJ, Mocco J, Majidi S, et al. Large-Vessel Stroke as a Presenting Feature of Covid-19 in the Young. N Engl J Med 2020.
87. Avula A, Nalleballe K, Narula N, et al. COVID-19 presenting as stroke. Brain Behav Immun 2020.
88. TunÇ A, ÜNlÜBaŞ Y, Alemdar M, AkyÜZ E. Coexistence of Covid-19 and Acute Ischemic Stroke Report of Four Cases. Journal of Clinical Neuroscience 2020.
89. Zhang Y, Xiao M, Zhang S, et al. Coagulopathy and Antiphospholipid Antibodies in Patients with Covid-19. N Engl J Med 2020.
90. Toscano G, Palmerini F, Ravaglia S, et al. Guillain–Barré Syndrome Associated with SARS-CoV-2. New England Journal of Medicine 2020.
91. Zhao H, Shen D, Zhou H, Liu J, Chen S. Guillain-Barre syndrome associated with SARS-CoV-2 infection: causality or coincidence? Lancet Neurol 2020;19:383-384.
92. Sedaghat Z, Karimi N. Guillain Barre syndrome associated with COVID-19 infection: A case report. J Clin Neurosci 2020.
93. Alberti P, Beretta S, Piatti M, et al. Guillain-Barré syndrome related to COVID-19 infection. Neurol Neuroimmunol Neuroinflamm 2020;7.
94. Padroni M, Mastrangelo V, Asioli GM, et al. Guillain-Barré syndrome following COVID-19: new infection, old complication? Journal of Neurology 2020.
95. Camdessanche JP, Morel J, Pozzetto B, Paul S, Tholance Y, Botelho-Nevers E. COVID-19 may induce Guillain-Barre syndrome. Rev Neurol (Paris) 2020.
96. Coen M, Jeanson G, Alejandro Culebras Almeida L, et al. Guillain-Barré Syndrome as a Complication of SARS-CoV-2 Infection. Brain Behav Immun 2020.
97. Virani A, Rabold E, Hanson T, et al. Guillain-Barré Syndrome associated with SARS-CoV-2 infection. IDCases 2020;20:e00771.
98. Gutiérrez-Ortiz C, Méndez A, Rodrigo-Rey S, et al. Miller Fisher Syndrome and polyneuritis cranialis in COVID-19. Neurology 2020:10.1212/WNL.0000000000009619.
99. Dinkin M, Gao V, Kahan J, et al. COVID-19 presenting with ophthalmoparesis from cranial nerve palsy. Neurology 2020:10.1212/WNL.0000000000009700.
100. Ebrille E, Lucciola MT, Amellone C, Ballocca F, Orlando F, Giammaria M. Syncope as the presenting symptom of COVID-19 infection. HeartRhythm Case Rep 2020.
101. Tape C, Byrd KM, Aung S, Lonks JR, Flanigan TP, Rybak NR. COVID-19 in a Patient Presenting with Syncope and a Normal Chest X-ray. R I Med J (2013) 2020;103:50-51.
102. Dugue R, Cay-Martínez KC, Thakur K, et al. Neurologic manifestations in an infant with COVID-19. Neurology 2020:10.1212/WNL.0000000000009653.
103. Moriguchi T, Harii N, Goto J, et al. A first Case of Meningitis/Encephalitis associated with SARS-Coronavirus-2. International Journal of Infectious Diseases 2020.
104. Zhou L, Zhang M, Gao J, Wang J. Sars-Cov-2: Underestimated damage to nervous system. Travel medicine and infectious disease 2020:101642.
105. Poyiadji N, Shahin G, Noujaim D, Stone M, Patel S, Griffith B. COVID-19–associated Acute Hemorrhagic Necrotizing Encephalopathy: CT and MRI Features. Radiology 2020:201187.
106. Sohal S, Mossammat M. COVID-19 Presenting with Seizures. IDCases 2020;20:e00782.
107. Huang YH, Jiang D, Huang JT. SARS-CoV-2 Detected in Cerebrospinal Fluid by PCR in a Case of COVID-19 Encephalitis. Brain Behav Immun 2020.
108. Bernard-Valnet R, Pizzarotti B, Anichini A, et al. Two patients with acute meningoencephalitis concomitant with SARS-CoV-2 infection. European Journal of Neurology 2020.