**Myositis**

1. Badovinac S, Korsic M, Zarkovic K, et al. Nivolumab-induced synchronous occurrence of myositis and hypothyroidism in a patient with squamous cell lung cancer. *Immunotherapy*. 2018;10(6):427-431. doi:10.2217/imt-2017-0174

2. Behling J, Kaes J, Münzel T, Grabbe S, Loquai C. New-onset third-degree atrioventricular block because of autoimmune-induced myositis under treatment with anti-programmed cell death-1 (nivolumab) for metastatic melanoma. *Melanoma Res*. 2017;27(2):155-158. doi:10.1097/CMR.0000000000000314

3. Berger M, Legeay A-L, Souci S, Streichenberger N, Thomas L, Dalle S. Pembrolizumab-induced dermatomyositis in a patient with metastatic melanoma. *Eur J Cancer*. 2018;104:227-230. doi:10.1016/j.ejca.2018.08.021

4. Bilen MA, Subudhi SK, Gao J, Tannir NM, Tu S-M, Sharma P. Acute rhabdomyolysis with severe polymyositis following ipilimumab-nivolumab treatment in a cancer patient with elevated anti-striated muscle antibody. *J Immunother Cancer*. 2016;4:36. doi:10.1186/s40425-016-0139-8

5. Bourgeois-Vionnet J, Joubert B, Bernard E, et al. Nivolumab-induced myositis: A case report and a literature review. *J Neurol Sci*. 2018;387:51-53. doi:10.1016/j.jns.2018.01.030

6. Carrera W, Baartman BJ, Kosmorsky G. A Case Report of Drug-Induced Myopathy Involving Extraocular Muscles after Combination Therapy with Tremelimumab and Durvalumab for Non-Small Cell Lung Cancer. *Neuroophthalmology*. 2017;41(3):140-143. doi:10.1080/01658107.2017.1291686

7. Delyon J, Brunet-Possenti F, Leonard-Louis S, et al. Immune checkpoint inhibitor rechallenge in patients with immune-related myositis. *Ann Rheum Dis*. 2019;78(11):e129. doi:10.1136/annrheumdis-2018-214336

8. Diamantopoulos PT, Tsatsou K, Benopoulou O, Anastasopoulou A, Gogas H. Inflammatory Myopathy and Axonal Neuropathy in a Patient With Melanoma Following Pembrolizumab Treatment. *J Immunother*. 2017;40(6):221-223. doi:10.1097/CJI.0000000000000172

9. Fellner A, Makranz C, Lotem M, et al. Neurologic complications of immune checkpoint inhibitors. *J Neurooncol*. 2018;137(3):601-609. doi:10.1007/s11060-018-2752-5

10. Fox E, Dabrow M, Ochsner G. A Case of Nivolumab-Induced Myositis. *Oncologist*. 2016;21(12):e3. doi:10.1634/theoncologist.2016-0170

11. Gallay L, Bourgeois-Vionnet J, Joubert B, Streichenberger N, Hot A. Muscular disorder related to immune checkpoint inhibitors: forewarned is forearmed. *Neuro-oncology*. 2018;20(6):861-862. doi:10.1093/neuonc/noy031

12. Gandiga PC, Wang AR, Gonzalez-Rivera T, Sreih AG. Pembrolizumab-associated inflammatory myopathy. *Rheumatology (Oxford)*. 2018;57(2):397-398. doi:10.1093/rheumatology/kex346

13. Haddox CL, Shenoy N, Shah KK, et al. Pembrolizumab induced bulbar myopathy and respiratory failure with necrotizing myositis of the diaphragm. *Ann Oncol*. 2017;28(3):673-675. doi:10.1093/annonc/mdw655

14. Hamada S, Fuseya Y, Tsukino M. Pembrolizumab-Induced Rhabdomyolysis With Myositis in a Patient With Lung Adenocarcinoma. *Arch Bronconeumol*. 2018;54(6):346-348. doi:10.1016/j.arbres.2018.01.026

15. Hassanzadeh B, DeSanto J, Kattah JC. Ipilimumab-induced Adenohypophysitis and Orbital Apex Syndrome: Importance of Early Diagnosis and Management. *Neuroophthalmology*. 2018;42(3):176-181. doi:10.1080/01658107.2017.1368090

16. Hunter G, Voll C, Robinson CA. Autoimmune inflammatory myopathy after treatment with ipilimumab. *Can J Neurol Sci*. 2009;36(4):518-520. doi:10.1017/s0317167100007939

17. John S, Antonia SJ, Rose TA, et al. Progressive hypoventilation due to mixed CD8+ and CD4+ lymphocytic polymyositis following tremelimumab - durvalumab treatment. *J Immunother Cancer*. 2017;5(1):54. doi:10.1186/s40425-017-0258-x

18. Johnson DB, Balko JM, Compton ML, et al. Fulminant Myocarditis with Combination Immune Checkpoint Blockade. *N Engl J Med*. 2016;375(18):1749-1755. doi:10.1056/NEJMoa1609214

19. Kadota H, Gono T, Shirai Y, Okazaki Y, Takeno M, Kuwana M. Immune Checkpoint Inhibitor-Induced Myositis: a Case Report and Literature Review. *Curr Rheumatol Rep*. 2019;21(4):10. doi:10.1007/s11926-019-0811-3

20. Kamo H, Hatano T, Kanai K, et al. Pembrolizumab-related systemic myositis involving ocular and hindneck muscles resembling myasthenic gravis: a case report. *BMC Neurol*. 2019;19(1):184. doi:10.1186/s12883-019-1416-1

21. Kao JC, Liao B, Markovic SN, et al. Neurological Complications Associated With Anti-Programmed Death 1 (PD-1) Antibodies. *JAMA Neurol*. 2017;74(10):1216-1222. doi:10.1001/jamaneurol.2017.1912

22. Khoo A, Zhuang Y, Boundy K, Frasca J. Immune checkpoint inhibitor-related myositis associated with atezolizumab therapy. *Neurol Clin Pract*. 2019;9(3):e25-e26. doi:10.1212/CPJ.0000000000000597

23. Kosche C, Stout M, Sosman J, Lukas RV, Choi JN. Dermatomyositis in a patient undergoing nivolumab therapy for metastatic melanoma: a case report and review of the literature. *Melanoma Res*. 2020;30(3):313-316. doi:10.1097/CMR.0000000000000642

24. Kudo F, Watanabe Y, Iwai Y, et al. Advanced Lung Adenocarcinoma with Nivolumab-associated Dermatomyositis. *Intern Med*. 2018;57(15):2217-2221. doi:10.2169/internalmedicine.9381-17

25. Lecouflet M, Verschoore M, Giard C, et al. [Orbital myositis associated with ipilimumab]. *Ann Dermatol Venereol*. 2013;140(6-7):448-451. doi:10.1016/j.annder.2013.02.029

26. Liao B, Shroff S, Kamiya-Matsuoka C, Tummala S. Atypical neurological complications of ipilimumab therapy in patients with metastatic melanoma. *Neuro-oncology*. 2014;16(4):589-593. doi:10.1093/neuonc/nou001

27. Liewluck T, Kao JC, Mauermann ML. PD-1 Inhibitor-associated Myopathies: Emerging Immune-mediated Myopathies. *J Immunother*. 2018;41(4):208-211. doi:10.1097/CJI.0000000000000196

28. Liu Y, Liu Z, Zeng X, et al. Fatal myositis and spontaneous haematoma induced by combined immune checkpoint inhibitor treatment in a patient with pancreatic adenocarcinoma. BMC Cancer. 2019;19(1):1193. doi:10.1186/s12885-019-6372-z

29. Min L, Hodi FS. Anti-PD1 following ipilimumab for mucosal melanoma: durable tumor response associated with severe hypothyroidism and rhabdomyolysis. *Cancer Immunol Res*. 2014;2(1):15-18. doi:10.1158/2326-6066.CIR-13-0146

30. Moreira A, Loquai C, Pföhler C, et al. Myositis and neuromuscular side-effects induced by immune checkpoint inhibitors. *Eur J Cancer*. 2019;106:12-23. doi:10.1016/j.ejca.2018.09.033

31. Nasr F, El Rassy E, Maalouf G, et al. Severe ophthalmoplegia and myocarditis following the administration of pembrolizumab. *Eur J Cancer*. 2018;91:171-173. doi:10.1016/j.ejca.2017.11.026

32. Nosaki Y, Mashimo S, Watanabe M, Yokoi T, Kobayashi Y, Iwai K. Paraspinal muscle involvement in pembrolizumab-associated myositis. Oxf Med Case Reports. 2020;2020(2):omaa003. doi:10.1093/omcr/omaa003

33. Ogawa T, Ishitsuka Y, Koguchi-Yoshioka H, et al. Polymyositis induced by PD-1 blockade in a patient in hepatitis B remission. *J Neurol Sci*. 2017;381:22-24. doi:10.1016/j.jns.2017.08.014

34. Ohira J, Kawamoto M, Sugino Y, Kohara N. A case report of fulminant cytokine release syndrome complicated by dermatomyositis after the combination therapy with immune checkpoint inhibitors. Medicine (Baltimore). 2020;99(15):e19741. doi:10.1097/MD.0000000000019741

35. Osaki M, Tachikawa R, Ohira J, Hara S, Tomii K. Anti-transcriptional intermediary factor 1-γ antibody-positive dermatomyositis induced by nivolumab for lung adenocarcinoma: A case report. *Invest New Drugs*. Published online July 10, 2020. doi:10.1007/s10637-020-00974-7

36. Ozarczuk TRA, Prentice DA, Kho LK, vanHeerden J. Checkpoint inhibitor myasthenia-like syndrome and myositis associated with extraocular muscle atrophy. *J Clin Neurosci*. 2020;71:271-272. doi:10.1016/j.jocn.2019.11.038

37. Parker MJ, Roberts ME, Lorigan PC, du Plessis DG, Chinoy H. Autoimmune fasciitis triggered by the anti-programmed cell death-1 monoclonal antibody nivolumab. *BMJ Case Rep*. 2018;2018. doi:10.1136/bcr-2017-223249

38. Peverelli L, De Rosa A, Domina E, et al. Severe inflammatory myopathy in a pulmonary carcinoma patient treated with Pembrolizumab: An alert for myologists. J Neuromuscul Dis. 2020;7(4):511-514. doi:10.3233/JND-200504

39. Pushkarevskaya A, Neuberger U, Dimitrakopoulou-Strauss A, Enk A, Hassel JC. Severe Ocular Myositis After Ipilimumab Treatment for Melanoma: A Report of 2 Cases. *J Immunother*. 2017;40(7):282-285. doi:10.1097/CJI.0000000000000178

40. Reynolds KL, Guidon AC. Diagnosis and Management of Immune Checkpoint Inhibitor-Associated Neurologic Toxicity: Illustrative Case and Review of the Literature. *Oncologist*. 2019;24(4):435-443. doi:10.1634/theoncologist.2018-0359

41. Robinson SD, Lai C, Hotton G, Anand G. Life threatening pembrolizumabinduced myositis in a patient treated for advanced adenocarcinoma of the lung. Acute Med. 2019;18(3):197-199.

42. Saini L, Chua N. Severe inflammatory myositis in a patient receiving concurrent nivolumab and azacitidine. *Leuk Lymphoma*. 2017;58(8):2011-2013. doi:10.1080/10428194.2016.1265115

43. Sakai K, Mochizuki H, Mochida K, Shiomi K, Amano M, Nakazato M. A Case of Nivolumab-Induced Severe Mononeuropathy Multiplex and Rhabdomyolysis. *Case Rep Med*. 2017;2017:1093858. doi:10.1155/2017/1093858

44. Seki M, Uruha A, Ohnuki Y, et al. Inflammatory myopathy associated with PD-1 inhibitors. *J Autoimmun*. 2019;100:105-113. doi:10.1016/j.jaut.2019.03.005

45. Sekiguchi K, Hashimoto R, Noda Y, et al. Diaphragm involvement in immune checkpoint inhibitor-related myositis. *Muscle Nerve*. 2019;60(4):E23-E25. doi:10.1002/mus.26640

46. Shah M, Tayar JH, Abdel-Wahab N, Suarez-Almazor ME. Myositis as an adverse event of immune checkpoint blockade for cancer therapy. *Semin Arthritis Rheum*. 2019;48(4):736-740. doi:10.1016/j.semarthrit.2018.05.006

47. Sheik Ali S, Goddard AL, Luke JJ, et al. Drug-associated dermatomyositis following ipilimumab therapy: a novel immune-mediated adverse event associated with cytotoxic T-lymphocyte antigen 4 blockade. *JAMA Dermatol*. 2015;151(2):195-199. doi:10.1001/jamadermatol.2014.2233

48. Shikano K, Kaneko K, Kaburaki K, et al. Nivolumab-induced anti-aminoacyl-tRNA synthetase antibody-positive polymyositis complicated by interstitial pneumonia in a patient with lung adenocarcinoma. *Scand J Rheumatol*. 2020;49(1):82-83. doi:10.1080/03009742.2019.1596309

49. Touat M, Maisonobe T, Knauss S, et al. Immune checkpoint inhibitor-related myositis and myocarditis in patients with cancer. *Neurology*. 2018;91(10):e985-e994. doi:10.1212/WNL.0000000000006124

50. Valenti-Azcarate R, Esparragosa Vazquez I, Toledano Illan C, Idoate Gastearena MA, Gállego Pérez-Larraya J. Nivolumab and Ipilimumab-induced myositis and myocarditis mimicking a myasthenia gravis presentation. Neuromuscul Disord. 2020;30(1):67-69. doi:10.1016/j.nmd.2019.10.006

51. Vallet H, Gaillet A, Weiss N, et al. Pembrolizumab-induced necrotic myositis in a patient with metastatic melanoma. *Ann Oncol*. 2016;27(7):1352-1353. doi:10.1093/annonc/mdw126

52. Veccia A, Kinspergher S, Grego E, et al. Myositis and myasthenia during nivolumab administration for advanced lung cancer: a case report and review of the literature. Anticancer Drugs. 2020;31(5):540-544. doi:10.1097/CAD.0000000000000903

53. Vermeulen L, Depuydt CE, Weckx P, et al. Myositis as a neuromuscular complication of immune checkpoint inhibitors. Acta Neurol Belg. 2020;120(2):355-364. doi:10.1007/s13760-020-01282-w

54. Wong EYT, Yong MH, Yong KP, et al. Immune checkpoint inhibitor-associated myositis and myasthenia gravis overlap: Understanding the diversity in a case series. Asia Pac J Clin Oncol. Published online September 27, 2020. doi:10.1111/ajco.13442

55. Yamaguchi Y, Abe R, Haga N, Shimizu H. A case of drug-associated dermatomyositis following ipilimumab therapy. *European Journal of Dermatology*. 2016;26(3):320-321. doi:10.1684/ejd.2016.2770

56. Yoshioka M, Kambe N, Yamamoto Y, Suehiro K, Matsue H. Case of respiratory discomfort due to myositis after administration of nivolumab. *J Dermatol*. 2015;42(10):1008-1009. doi:10.1111/1346-8138.12991

**GBS and other peripheral neuropathies**

1. Alhammad RM, Dronca RS, Kottschade LA, et al. Brachial Plexus Neuritis Associated With Anti-Programmed Cell Death-1 Antibodies: Report of 2 Cases. *Mayo Clin Proc Innov Qual Outcomes*. 2017;1(2):192-197. doi:10.1016/j.mayocpiqo.2017.07.004

2. Appelbaum J, Wells D, Hiatt JB, et al. Fatal enteric plexus neuropathy after one dose of ipilimumab plus nivolumab: a case report. *j immunotherapy cancer*. 2018;6(1):82. doi:10.1186/s40425-018-0396-9

3. Aya F, Ruiz-Esquide V, Viladot M, et al. Vasculitic neuropathy induced by pembrolizumab. *Ann Oncol*. 2017;28(2):433-434. doi:10.1093/annonc/mdw613

4. Baird-Gunning JJD, Weerasinghe D, Silsby M, et al. Miller Fisher Syndrome Associated With Immunotherapy for Metastatic Melanoma. *Neurohospitalist*. 2018;8(4):191-193. doi:10.1177/1941874418778957

5. Barp A, Gilardin L, Afanasiev V, et al. Subacute inflammatory demyelinating polyradiculoneuropathy complicating relapsing Hodgkin lymphoma: another immune-related adverse event of the anti-PD1 therapy? *Leuk Lymphoma*. 2019;60(2):547-549. doi:10.1080/10428194.2018.1485912

6. Bhatia S, Huber BR, Upton MP, Thompson JA. Inflammatory enteric neuropathy with severe constipation after ipilimumab treatment for melanoma: a case report. *J Immunother*. 2009;32(2):203-205. doi:10.1097/CJI.0b013e318193a206

7. Bot I, Blank CU, Boogerd W, Brandsma D. Neurological immune-related adverse events of ipilimumab. *Pract Neurol*. 2013;13(4):278-280. doi:10.1136/practneurol-2012-000447

8. Cafuir L, Lawson D, Desai N, Kesner V, Voloschin A. Inflammatory demyelinating polyneuropathy versus leptomeningeal disease following Ipilimumab. *J Immunother Cancer*. 2018;6(1):11. doi:10.1186/s40425-018-0318-x

9. Cc Y, Hc S, Cy C, et al. Excellent Treatment Response With Pembrolizumab in a Lung Cancer Patient Who Developed Immune-Mediated Acute Motor/Sensory Axonal Polyneuropathy. Lung cancer (Amsterdam, Netherlands). doi:10.1016/j.lungcan.2018.04.014

10. Cho H-S, Lee K-Y, Hu C-J, Chung C-C. Severe polyradiculoneuritis associated with the combination of ipilimumab and pembrolizumab in a lung cancer patient. *Neurol India*. 2018;66(2):509-511. doi:10.4103/0028-3886.227311

11. de Maleissye M-F, Nicolas G, Saiag P. Pembrolizumab-Induced Demyelinating Polyradiculoneuropathy. *N Engl J Med*. 2016;375(3):296-297. doi:10.1056/NEJMc1515584

12. Dubey D, David WS, Amato AA, et al. Varied phenotypes and management of immune checkpoint inhibitor-associated neuropathies. *Neurology*. 2019;93(11):e1093-e1103. doi:10.1212/WNL.0000000000008091

13. Fukumoto Y, Kuwahara M, Kawai S, Nakahama K, Kusunoki S. Acute demyelinating polyneuropathy induced by nivolumab. *J Neurol Neurosurg Psychiatry*. 2018;89(4):435-437. doi:10.1136/jnnp-2017-316510

14. Gambichler T, Susok L, Fels M, et al. Autoimmune radiculoplexus neuropathy under adjuvant nivolumab treatment of a female patient with melanoma. *Br J Dermatol*. 2020;182(1):246-247. doi:10.1111/bjd.18358

15. Garcia CA, El-Ali A, Rath TJ, et al. Neurologic immune-related adverse events associated with adjuvant ipilimumab: report of two cases. j immunotherapy cancer. 2018;6:83. doi:10.1186/s40425-018-0393-z

16. Gaudy-Marqueste C, Monestier S, Franques J, Cantais E, Richard M-A, Grob J-J. A severe case of ipilimumab-induced guillain-barré syndrome revealed by an occlusive enteric neuropathy: a differential diagnosis for ipilimumab-induced colitis. *J Immunother*. 2013;36(1):77-78. doi:10.1097/CJI.0b013e31827807dd

17. Ghosn J, Vicino A, Michielin O, Coukos G, Kuntzer T, Obeid M. A severe case of neuro-Sjögren’s syndrome induced by pembrolizumab. J Immunother Cancer. 2018;6:110. doi: 10.1186/s40425-018-0429-4.

18. Gill AlexanderJ, Perez MA, Perrone CM, Bae CJ, Pruitt AA, Lancaster E. A case series of PD-1 inhibitor-associated paraneoplastic neurologic syndromes. *Journal of Neuroimmunology*. 2019;334:576980. doi:10.1016/j.jneuroim.2019.576980

19. Gravbrot N, Scherer K, Sundararajan S. Safe Transition to Pembrolizumab following Ipilimumab-Induced Guillain-Barré Syndrome: A Case Report and Review of the Literature. *Case Reports in Oncological Medicine*. 2019;2019:1–5. doi:10.1155/2019/5490707

20. Green KE, Levine AM, Ward JH, Kaufman DI. GQ1b-Seronegative Miller Fisher Syndrome Associated With Pembrolizumab. *J Neuroophthalmol*. 2019;39(3):394-396. doi:10.1097/WNO.0000000000000755

21. Gu Y, Menzies AM, Long GV, Fernando SL, Herkes G. Immune mediated neuropathy following checkpoint immunotherapy. *J Clin Neurosci*. 2017;45:14-17. doi:10.1016/j.jocn.2017.07.014

22. Jacob A, Unnikrishnan DC, Mathew A, Thyagarajan B, Patel S. A case of fatal Guillain-Barre syndrome from anti-PD1 monoclonal antibody use. *J Cancer Res Clin Oncol*. 2016;142(8):1869-1870. doi:10.1007/s00432-016-2191-7

23. Jinnur P, Lim KG. Severe Acute Orthopnea: Ipilimumab-Induced Bilateral Phrenic Nerve Neuropathy. *Lung*. 2015;193(4):611-613. doi:10.1007/s00408-015-9716-8

24. Kambayashi Y, Fujimura T, Kuroda H, Otsuka A, Irie H, Aiba S. Severe Demyelinating Neuropathy in an Advanced Melanoma Patient Treated with Nivolumab plus Ipilimumab Combined Therapy. *Case Rep Oncol*. 2020;13:474–477. doi:10.1159/000506976

25. Kao JC, Liao B, Markovic SN, et al. Neurological Complications Associated With Anti-Programmed Death 1 (PD-1) Antibodies. *JAMA Neurol*. 2017;74(10):1216-1222. doi:10.1001/jamaneurol.2017.1912

26. Kelly Wu W, Broman KK, Brownie ER, Kauffmann RM. Ipilimumab-induced Guillain-Barré Syndrome Presenting as Dysautonomia: An Unusual Presentation of a Rare Complication of Immunotherapy. *J Immunother*. 2017;40(5):196-199. doi:10.1097/CJI.0000000000000167

27. Kolb NA, Trevino CR, Waheed W, et al. Neuromuscular complications of immune checkpoint inhibitor therapy. *Muscle Nerve*. Published online January 17, 2018. doi:10.1002/mus.26070

28. Kyriazoglou A, Liontos M, Papadopoulos C, et al. Guillain-Barré Syndrome Related to Nivolumab: Case Report of a Patient With Urothelial Cancer and Review of the Literature. *Clin Genitourin Cancer*. 2019;17(2):e360-e364. doi:10.1016/j.clgc.2018.11.022

29. Lacour M, Grangeon L, Flament J, et al. Ipilimumab-induced severe meningoradiculitis. *J Clin Neurosci*. 2019;62:246-247. doi:10.1016/j.jocn.2018.12.009

30. Liao B, Shroff S, Kamiya-Matsuoka C, Tummala S. Atypical neurological complications of ipilimumab therapy in patients with metastatic melanoma. *Neuro-oncology*. 2014;16(4):589-593. doi:10.1093/neuonc/nou001

31. Luke JJ, Lezcano C, Hodi FS, Murphy GF. Antitumor granuloma formation by CD4+ T cells in a patient with rapidly progressive melanoma experiencing spiking fevers, neuropathy, and other immune-related toxicity after treatment with ipilimumab. *J Clin Oncol*. 2015;33(6):e32-35. doi:10.1200/JCO.2013.49.7735

32. Manam R, Martin JL, Gross JA, et al. Case Reports of Pembrolizumab-induced Acute Inflammatory Demyelinating Polyneuropathy. *Cureus*. 2018;10(9):e3371. doi:10.7759/cureus.3371

33. Mancone S, Lycan T, Ahmed T, et al. Severe neurologic complications of immune checkpoint inhibitors: a single-center review. *J Neurol*. 2018;265(7):1636-1642. doi:10.1007/s00415-018-8890-z

34. Manousakis G, Koch J, Sommerville RB, et al. Multifocal radiculoneuropathy during ipilimumab treatment of melanoma. *Muscle Nerve*. 2013;48(3):440-444. doi:10.1002/mus.23830

35. Mazzaschi G, Bordi P, Fioretzaki R, et al. Nivolumab-Induced Guillain Barré Syndrome Coupled with Remarkable Disease Response in a Case of Heavily Pre-treated Lung Adenocarcinoma. *Clin Lung Cancer*. 2020;21(2):e65-e73. doi:10.1016/j.cllc.2019.11.001

36. Möhn N, Sühs K-W, Gingele S, et al. Acute progressive neuropathy-myositis-myasthenia-like syndrome associated with immune-checkpoint inhibitor therapy in patients with metastatic melanoma. *Melanoma Res*. 2019;29(4):435-440. doi:10.1097/CMR.0000000000000598

37. Muralikrishnan S, Ronan LK, Coker S, Rauschkolb PK, Shirai K. Treatment Considerations for Patients with Unresectable Metastatic Melanoma Who Develop Pembrolizumab-Induced Guillain-Barré Toxicity: A Case Report. *Case Rep Oncol*. 2020;13:43–48. doi:10.1159/000504930

38. Nukui T, Nakayama Y, Yamamoto M, et al. Nivolumab-induced acute demyelinating polyradiculoneuropathy mimicking Guillain-Barré syndrome. *J Neurol Sci*. 2018;390:115-116. doi:10.1016/j.jns.2018.04.028

39. Okada K, Seki M, Yaguchi H, et al. Polyradiculoneuropathy induced by immune checkpoint inhibitors: a case series and review of the literature. *J Neurol*. 2020. doi:10.1007/s00415-020-10213-x

40. Ong S, Chapman J, Young G, Mansy T. Guillain-Barré-like syndrome during pembrolizumab treatment. *Muscle Nerve*. Published online February 14, 2018. doi:10.1002/mus.26101

41. Patel A, Snook R, Sehdev A. Chronic inflammatory demyelinating polyradiculoneuropathy secondary to immune checkpoint inhibitors in melanoma patients. *Discovery medicine*. 2019;28 (152):107–111.

42. Ruff MW, Mauermann ML. The Mayo Clinic Experience With the Neurological Complications of the CTLA-4 Inhibitor Ipilimumab: *The Neurologist*. 2018;23(3):98-99. doi:10.1097/NRL.0000000000000176

43. Rupareliya C, Naqvi S, Jani VB. Acute Inflammatory Demyelinating Polyneuroradiculopathy with Ipilimumab in Metastatic Melanoma: A Case Report and Review of Literature. *Cureus*. 2017;9(6):e1310. doi:10.7759/cureus.1310

44. Sakoh T, Kanzaki M, Miyamoto A, et al. Ramsay-Hunt syndrome and subsequent sensory neuropathy as potential immune-related adverse events of nivolumab: a case report. *BMC Cancer*. 2019;19(1):1220. doi:10.1186/s12885-019-6444-0

45. Schneiderbauer R, Schneiderbauer M, Wick W, Enk AH, Haenssle HA, Hassel JC. PD-1 Antibody-induced Guillain-Barré Syndrome in a Patient with Metastatic Melanoma. *Acta Derm Venereol*. 2017;97(3):395-396. doi:10.2340/00015555-2548

46. Seery V. Interprofessional Collaboration with Immune Checkpoint Inhibitor Therapy: the Roles of Gastroenterology, Endocrinology and Neurology. *Seminars in Oncology Nursing*. 2017;33(4):402-414. doi:10.1016/j.soncn.2017.08.002

47. Sepúlveda M, Martinez-Hernandez E, Gaba L, et al. Motor polyradiculopathy during pembrolizumab treatment of metastatic melanoma. *Muscle Nerve*. 2017;56(6):E162-E167. doi:10.1002/mus.25672

48. Spain L, Walls G, Julve M, et al. Neurotoxicity from immune-checkpoint inhibition in the treatment of melanoma: a single centre experience and review of the literature. *Ann Oncol*. 2017;28(2):377-385. doi:10.1093/annonc/mdw558

49. Supakornnumporn S, Katirji B. Guillain-Barré Syndrome Triggered by Immune Checkpoint Inhibitors: A Case Report and Literature Review. *J Clin Neuromuscul Dis*. 2017;19(2):80-83. doi:10.1097/CND.0000000000000193

50. Tanaka R, Maruyama H, Tomidokoro Y, et al. Nivolumab-induced chronic inflammatory demyelinating polyradiculoneuropathy mimicking rapid-onset Guillain-Barré syndrome: a case report. *Jpn J Clin Oncol*. 2016;46(9):875-878. doi:10.1093/jjco/hyw090

51. Thaipisuttikul I, Chapman P, Avila EK. Peripheral neuropathy associated with ipilimumab: a report of 2 cases. *J Immunother*. 2015;38(2):77-79. doi:10.1097/CJI.0000000000000070

52. Thapa B, Khalid S, Vakili R, Ui J, Misbah S. Nivolumab-Associated Guillain-Barre Syndrome in a Patient With Non-Small-Cell Lung Cancer. *Am J Ther*. 2018;25(6):e761-e763. doi:10.1097/MJT.0000000000000771

53. Vickers ML, Seidl B, Bigby K, et al. Inflammatory Myeloradiculitis Secondary to Pembrolizumab: A Case Report and Literature Review. *Case Reports in Oncological Medicine*. 2020;2020:1–5. doi:10.1155/2020/8819296

54. Villarreal-Compagny M, Iglesias P, Marco-Hernández J, et al. ANCA-associated vasculitic neuropathy during treatment with ipilimumab. *Rheumatology (Oxford)*. 2020;59(1):251-252. doi:10.1093/rheumatology/kez235

55. Wilgenhof S, Neyns B. Anti-CTLA-4 antibody-induced Guillain-Barré syndrome in a melanoma patient. *Ann Oncol*. 2011;22(4):991-993. doi:10.1093/annonc/mdr028

56. Wilson R, Menassa DA, Davies AJ, et al. Seronegative antibody-mediated neurology after immune checkpoint inhibitors. *Ann Clin Transl Neurol*. 2018;5(5):640-645. doi:10.1002/acn3.547

57. Yildirim N, Gonen M, Balgetir F, Er MB. Fatal Acute Motor Axonal Neuropathy Induced by Nivolumab: A Case Report and Literature Review. *Clinical Genitourinary Cancer*. 2019;17(6):e1104-e1107. doi:10.1016/j.clgc.2019.07.020

58. Zimmer L, Goldinger SM, Hofmann L, et al. Neurological, respiratory, musculoskeletal, cardiac and ocular side-effects of anti-PD-1 therapy. *European Journal of Cancer*. 2016;60:210-225. doi:10.1016/j.ejca.2016.02.024

**Myasthenic syndromes**

1. Algaeed M, Mukharesh L, Heinzelmann M, Kaminski HJ. Pearls & Oy-sters: Pembrolizumab-induced myasthenia gravis. *Neurology*. 2018;91(14):e1365-e1367. doi:10.1212/WNL.0000000000006278

2. Alnahhas I, Wong J. A case of new-onset antibody-positive myasthenia gravis in a patient treated with pembrolizumab for melanoma. *Muscle Nerve*. 2017;55(6):E25-E26. doi:10.1002/mus.25496

3. Becquart O, Lacotte J, Malissart P, et al. Myasthenia Gravis Induced by Immune Checkpoint Inhibitors. *J Immunother*. 2019;42(8):309-312. doi:10.1097/CJI.0000000000000278

4. Calvo A et al., Myasthenia Gravis and Rhabdomyolysis in A Patient with Advanced Renal Cell Cancer Treated With Nivolumab: A Case Report And Review of the Literature. British Journal of Medical and Health Research 2015.

5. Chang E, Sabichi AL, Sada YH. Myasthenia Gravis After Nivolumab Therapy for Squamous Cell Carcinoma of the Bladder. *J Immunother*. 2017;40(3):114-116. doi:10.1097/CJI.0000000000000161

6. Chen J-H, Lee K-Y, Hu C-J, Chung C-C. Coexisting myasthenia gravis, myositis, and polyneuropathy induced by ipilimumab and nivolumab in a patient with non-small-cell lung cancer: A case report and literature review. *Medicine (Baltimore)*. 2017;96(50):e9262. doi:10.1097/MD.0000000000009262

7. Chen Y-H, Liu F-C, Hsu C-H, Chian C-F. Nivolumab-induced myasthenia gravis in a patient with squamous cell lung carcinoma: Case report. *Medicine (Baltimore)*. 2017;96(27):e7350. doi:10.1097/MD.0000000000007350

8. Crusz SM, Radunovic A, Shepherd S, et al. Rituximab in the treatment of pembrolizumab-induced myasthenia gravis. *Eur J Cancer*. 2018;102:49-51. doi:10.1016/j.ejca.2018.07.125

9. Fellner A, Makranz C, Lotem M, et al. Neurologic complications of immune checkpoint inhibitors. *J Neurooncol*. 2018;137(3):601-609. doi:10.1007/s11060-018-2752-5

10. Fukasawa Y, Sasaki K, Natsume M, et al. Nivolumab-Induced Myocarditis Concomitant with Myasthenia Gravis. *Case Rep Oncol*. 2017;10(3):809-812. doi:10.1159/000479958

11. Gonzalez NL, Puwanant A, Lu A, Marks SM, Živković SA. Myasthenia triggered by immune checkpoint inhibitors: New case and literature review. *Neuromuscul Disord*. 2017;27(3):266-268. doi:10.1016/j.nmd.2017.01.002

12. Hasegawa Y, Kawai S, Ota T, Tsukuda H, Fukuoka M. Myasthenia gravis induced by nivolumab in patients with non-small-cell lung cancer: a case report and literature review. *Immunotherapy*. 2017;9(9):701-707. doi:10.2217/imt-2017-0043

13. Hayakawa N, Kikuchi E, Suzuki S, Oya M. Myasthenia gravis with myositis induced by pembrolizumab therapy in a patient with metastatic urothelial carcinoma. Int Cancer Conf J. 2020;9(3):123-126. doi: 10.1007/s13691-020-00408-4.

14. Hibino M, Maeda K, Horiuchi S, Fukuda M, Kondo T. Pembrolizumab-induced myasthenia gravis with myositis in a patient with lung cancer. *Respirol Case Rep*. 2018;6(7):e00355. doi:10.1002/rcr2.355

15. Huh SY, Shin SH, Kim MK, Lee SY, Son KH, Shin HY. Emergence of Myasthenia Gravis with Myositis in a Patient Treated with Pembrolizumab for Thymic Cancer. *J Clin Neurol*. 2018;14(1):115-117. doi:10.3988/jcn.2018.14.1.115

16. Johansen A, Christensen SJ, Scheie D, Højgaard JLS, Kondziella D. Neuromuscular adverse events associated with anti-PD-1 monoclonal antibodies: Systematic review. *Neurology*. 2019;92(14):663-674. doi:10.1212/WNL.0000000000007235

17. Johnson DB, Saranga-Perry V, Lavin PJM, et al. Myasthenia Gravis Induced by Ipilimumab in Patients With Metastatic Melanoma. *J Clin Oncol*. 2015;33(33):e122-124. doi:10.1200/JCO.2013.51.1683

18. Kang KH, Grubb W, Sawlani K, et al. Immune checkpoint-mediated myositis and myasthenia gravis: A case report and review of evaluation and management. *Am J Otolaryngol*. 2018;39(5):642-645. doi:10.1016/j.amjoto.2018.06.003

19. Kim J-S, Nam T-S, Kim J, et al. Myasthenia gravis and myopathy after nivolumab treatment for non-small cell lung carcinoma: A case report. *Thorac Cancer*. 2019;10(10):2045-2049. doi:10.1111/1759-7714.13177

20. Kimura T, Fukushima S, Miyashita A, et al. Myasthenic crisis and polymyositis induced by one dose of nivolumab. *Cancer Sci*. 2016;107(7):1055-1058. doi:10.1111/cas.12961

21. Lara MS, Afify A, Ellis MP, Phan CT, Richman DP, Riess JW. Immune Checkpoint Inhibitor-Induced Myasthenia Gravis in a Patient with Advanced NSCLC and Remote History of Thymoma. *Clin Lung Cancer*. 2019;20(4):e489-e491. doi:10.1016/j.cllc.2019.04.007

22. Loochtan AI, Nickolich MS, Hobson-Webb LD. Myasthenia gravis associated with ipilimumab and nivolumab in the treatment of small cell lung cancer. *Muscle Nerve*. 2015;52(2):307-308. doi:10.1002/mus.24648

23. Makarious D, Horwood K, Coward JIG. Myasthenia gravis: An emerging toxicity of immune checkpoint inhibitors. *Eur J Cancer*. 2017;82:128-136. doi:10.1016/j.ejca.2017.05.041

24. March KL, Samarin MJ, Sodhi A, Owens RE. Pembrolizumab-induced myasthenia gravis: A fatal case report. *J Oncol Pharm Pract*. 2018;24(2):146-149. doi:10.1177/1078155216687389

25. Mathews EP, Romito JW. Management of immune checkpoint inhibitor-related acute hypoxic neuromuscular respiratory failure using high-flow nasal cannula. Proc (Bayl Univ Med Cent). 2020;33(3):407-408. doi: 10.1080/08998280.2020.1744793

26. Mehta JJ, Maloney E, Srinivasan S, Seitz P, Cannon M. Myasthenia Gravis Induced by Nivolumab: A Case Report. *Cureus*. 2017;9(9):e1702. doi:10.7759/cureus.1702

27. Möhn N, Sühs K-W, Gingele S, et al. Acute progressive neuropathy-myositis-myasthenia-like syndrome associated with immune-checkpoint inhibitor therapy in patients with metastatic melanoma. *Melanoma Res*. 2019;29(4):435-440. doi:10.1097/CMR.0000000000000598

28. Montes V, Sousa S, Pita F, Guerreiro R, Carmona C. Myasthenia Gravis Induced by Ipilimumab in a Patient With Metastatic Melanoma. *Front Neurol*. 2018;9:150. doi:10.3389/fneur.2018.00150

29. Nakatani Y, Tanaka N, Enami T, Minami S, Okazaki T, Komuta K. Lambert-Eaton Myasthenic Syndrome Caused by Nivolumab in a Patient with Squamous Cell Lung Cancer. *Case Rep Neurol*. 2018;10(3):346-352. doi:10.1159/000494078

30. Nguyen BHV, Kuo J, Budiman A, Christie H, Ali S. Two cases of clinical myasthenia gravis associated with pembrolizumab use in responding melanoma patients. *Melanoma Res*. 2017;27(2):152-154. doi:10.1097/CMR.0000000000000310

31. Onda A, Miyagawa S, Takahashi N, et al. Pembrolizumab-induced Ocular Myasthenia Gravis with Anti-titin Antibody and Necrotizing Myopathy. *Intern Med*. 2019;58(11):1635-1638. doi:10.2169/internalmedicine.1956-18

32. Polat P, Donofrio PD. Myasthenia gravis induced by nivolumab therapy in a patient with non-small-cell lung cancer. *Muscle Nerve*. 2016;54(3):507. doi:10.1002/mus.25163

33. Rota E, Varese P, Agosti S, et al. Concomitant myasthenia gravis, myositis, myocarditis and polyneuropathy, induced by immune-checkpoint inhibitors: A life-threatening continuum of neuromuscular and cardiac toxicity. *eNeurologicalSci*. 2019;14:4-5. doi:10.1016/j.ensci.2018.11.023

34. Sciacca G, Nicoletti A, Rampello L, Noto L, Parra HJS, Zappia M. Benign form of myasthenia gravis after nivolumab treatment. *Muscle Nerve*. 2016;54(3):507-509. doi:10.1002/mus.25212

35. Shin JH, Choi YJ, Lee J, Baek SH. Pembrolizumab-Induced Myasthenic Crisis with HyperCKemia in a Patient with Thymoma. J Clin Neurol. 2020;16(3):497-498. doi: 10.3988/jcn.2020.16.3.497.

36. Shirai T, Sano T, Kamijo F, et al. Acetylcholine receptor binding antibody-associated myasthenia gravis and rhabdomyolysis induced by nivolumab in a patient with melanoma. *Jpn J Clin Oncol*. 2016;46(1):86-88. doi:10.1093/jjco/hyv158

37. So H, Ikeguchi R, Kobayashi M, Suzuki M, Shimizu Y, Kitagawa K. PD-1 inhibitor-associated severe myasthenia gravis with necrotizing myopathy and myocarditis. *J Neurol Sci*. 2019;399:97-100. doi:10.1016/j.jns.2019.02.023

38. Suzuki S, Ishikawa N, Konoeda F, et al. Nivolumab-related myasthenia gravis with myositis and myocarditis in Japan. *Neurology*. 2017;89(11):1127-1134. doi:10.1212/WNL.0000000000004359

39. Tan RYC, Toh CK, Takano A. Continued Response to One Dose of Nivolumab Complicated by Myasthenic Crisis and Myositis. *J Thorac Oncol*. 2017;12(7):e90-e91. doi:10.1016/j.jtho.2017.02.024

40. Tedbirt B, De Pontville M, Branger P, et al. Rechallenge of immune checkpoint inhibitor after pembrolizumab-induced myasthenia gravis. *Eur J Cancer*. 2019;113:72-74. doi:10.1016/j.ejca.2019.03.006

41. Thakolwiboon S, Karukote A, Wilms H. De Novo Myasthenia Gravis Induced by Atezolizumab in a Patient with Urothelial Carcinoma. *Cureus*. 2019;11(6):e5002. doi:10.7759/cureus.5002

42. Werner J-M, Schweinsberg V, Schroeter M, et al. Successful Treatment of Myasthenia Gravis Following PD-1/CTLA-4 Combination Checkpoint Blockade in a Patient With Metastatic Melanoma. *Front Oncol*. 2019;9:84. doi:10.3389/fonc.2019.00084

43. Wilson R, Menassa DA, Davies AJ, et al. Seronegative antibody-mediated neurology after immune checkpoint inhibitors. *Ann Clin Transl Neurol*. 2018;5(5):640-645. doi:10.1002/acn3.547

44. Yuen C, Fleming G, Meyers M, Soliven B, Rezania K. Myasthenia gravis induced by avelumab. *Immunotherapy*. 2019;11(14):1181-1185. doi:10.2217/imt-2019-0106

45. Zimmer L, Goldinger SM, Hofmann L, et al. Neurological, respiratory, musculoskeletal, cardiac and ocular side-effects of anti-PD-1 therapy. *Eur J Cancer*. 2016;60:210-225. doi:10.1016/j.ejca.2016.02.024

**Cranial neuropathies**

1. Ahluwalia A, Kohli AA. Photopsias in the Setting of Nivolumab Therapy. *J Neuroophthalmol*. 2020 Feb 27. doi: 10.1097/WNO.0000000000000909
2. Altman AL, Golub JS, Pensak ML, Samy RN. Bilateral Facial Palsy following Ipilimumab Infusion for Melanoma. *Otolaryngol Head Neck Surg*. 2015;153(5):894-895. doi:10.1177/0194599815606701
3. Boisseau W, Touat M, Berzero G, et al. Safety of treatment with nivolumab after ipilimumab-related meningoradiculitis and bilateral optic neuropathy. *Eur J Cancer*. 2017;83:28-31. doi:10.1016/j.ejca.2017.05.036
4. Dubey D, David WS, Amato AA, et al. Varied phenotypes and management of immune checkpoint inhibitor-associated neuropathies. *Neurology*. 2019;93(11):e1093-e1103. doi:10.1212/WNL.0000000000008091
5. Fellner A, Makranz C, Lotem M, et al. Neurologic complications of immune checkpoint inhibitors. *J Neurooncol*. 2018;137(3):601-609. doi:10.1007/s11060-018-2752-5
6. Indini A, Sessa M, Merelli B, et al. A case of severe pharyngeal-cervical-brachial syndrome induced by nivolumab and responding to infliximab therapy. *Eur J Cancer*. 2020 Apr;129:1-3. doi: 10.1016/j.ejca.2020.01.009
7. Kartal Ö, Ataş E. Bilateral Optic Neuritis Secondary to Nivolumab Therapy: A Case Report. *Medicina (Kaunas)*. 2018;54(5). doi:10.3390/medicina54050082
8. Lemasson J, Cuzzubbo S, Doucet L, et al. Cochleovestibular toxicity induced by immune checkpoint inhibition: a case series. *Eur J Cancer*. 2019;117:116-118. doi:10.1016/j.ejca.2019.05.022
9. Mancone S, Lycan T, Ahmed T, et al. Severe neurologic complications of immune checkpoint inhibitors: a single-center review. *J Neurol*. 2018;265(7):1636-1642. doi:10.1007/s00415-018-8890-z
10. Mori S, Kurimoto T, Ueda K, et al. Optic Neuritis Possibly Induced by Anti-PD-L1 Antibody Treatment in a Patient with Non-Small Cell Lung Carcinoma. *Case Rep Ophthalmol*. 2018;9(2):348-356. doi:10.1159/000491075
11. Nowosielski M, Di Pauli F, Iglseder S, et al. Encephalomyeloneuritis and arthritis after treatment with immune checkpoint inhibitors. *Neurol Neuroimmunol Neuroinflamm*. 2020 May 27;7(4):e773. doi: 10.1212/NXI.0000000000000773
12. Numata S, Iwata Y, Okumura R, et al. Bilateral anterior uveitis and unilateral facial palsy due to ipilimumab for metastatic melanoma in an individual with human leukocyte antigen DR4: A case report. *J Dermatol*. 2018;45(1):113-114. doi:10.1111/1346-8138.13779
13. Siegel CH, Finn RS, Ho MG. Multiple Cranial Neuropathies From Nivolumab in a Patient With Metastatic Hepatocellular Carcinoma. *Mayo Clin Proc*. 2018;93(4):540-541. doi:10.1016/j.mayocp.2018.01.001
14. Vicente-Pascual M, Molins-Rojas C, Rosas-Soto K, et al. Bilateral Optic Neuritis Secondary to Immune Etiology by anti-PD-L1 Antibody. *J Neuroophthalmol*. 2020 Aug 28. doi:10.1097/WNO.0000000000001029
15. Wilson MA, Guld K, Galetta S, et al. Acute visual loss after ipilimumab treatment for metastatic melanoma. *J Immunother Cancer*. 2016;4:66. doi:10.1186/s40425-016-0170-9
16. Yeh OL, Francis CE. Ipilimumab-associated bilateral optic neuropathy. *J Neuroophthalmol*. 2015;35(2):144-147. doi:10.1097/WNO.0000000000000217
17. Yost MD, Chou CZ, Botha H, Block MS, Liewluck T. Facial diplegia after pembrolizumab treatment. *Muscle Nerve*. 2017;56(3):E20-E21. doi:10.1002/mus.25663
18. Yuen C, Reid P, Zhang Z, Soliven B, Luke JJ, Rezania K. Facial Palsy Induced by Checkpoint Blockade: A Single Center Retrospective Study. *J Immunother*. 2019;42(3):94-96. doi:10.1097/CJI.0000000000000254
19. Zecchini JM, Kim S, Yum K, Friedlander P. Development of Bell’s Palsy After Treatment With Ipilimumab and Nivolumab for Metastatic Melanoma: A Case Report. *J Immunother*. 2018;41(1):39-41. doi:10.1097/CJI.0000000000000184

**Encephalitis/encephalopathies**

1. Bossart S, Thurneysen S, Rushing E, et al. Case Report: Encephalitis, with Brainstem Involvement, Following Checkpoint Inhibitor Therapy in Metastatic Melanoma. *Oncologist*. 2017;22(6):749-753. doi:10.1634/theoncologist.2016-0366
2. Boyd KK, Kalladka D, Overell JR, Waterston A. Ipilimumab Induced Encephalitis: A Case Report. Published online 2015. doi:10.4172/1745-7580.1000092
3. Brown MP, Hissaria P, Hsieh AH, Kneebone C, Vallat W. Autoimmune limbic encephalitis with anti-contactin-associated protein-like 2 antibody secondary to pembrolizumab therapy. *J Neuroimmunol*. 2017;305:16-18. doi:10.1016/j.jneuroim.2016.12.016
4. Cabral G, Ladeira F, Gil N. Nivolumab-induced seronegative encephalitis. *J Neuroimmunol*. 2020 Oct 15;347:577350. doi: 10.1016/j.jneuroim.2020.577350
5. De la Hoz A, Foolad F, Gallegos C, Kornblau S, Kontoyiannis DP. Nivolumab-induced encephalitis post allogeneic stem cell transplant in a patient with Hodgkin’s disease. *Bone Marrow Transplant*. 2019;54(5):749-751. doi:10.1038/s41409-018-0363-6
6. Erol-Yıldız R, Kızılay T, Tüzün E, Mısırlı H, Türkoğlu R. Nivolumab-induced autoantibody negative limbic encephalitis in a patient with Hodgkin lymphoma. *Leuk Lymphoma*. 2020 Jun;61(6):1519-1521. doi: 10.1080/10428194.2020.1725508
7. Fellner A, Makranz C, Lotem M, et al. Neurologic complications of immune checkpoint inhibitors. *J Neurooncol*. 2018;137(3):601-609. doi:10.1007/s11060-018-2752-5
8. Feng S, Coward J, McCaffrey E, Coucher J, Kalokerinos P, O’Byrne K. Pembrolizumab-Induced Encephalopathy: A Review of Neurological Toxicities with Immune Checkpoint Inhibitors. *J Thorac Oncol*. 2017;12(11):1626-1635. doi:10.1016/j.jtho.2017.08.007
9. Fujiwara S, Mimura N, Yoshimura H, et al. Elevated Adenosine Deaminase Levels in the Cerebrospinal Fluid in Immune Checkpoint Inhibitor-induced Autoimmune Encephalitis. *Intern Med*. 2019;58(19):2871-2874. doi:10.2169/internalmedicine.2537-18
10. Gill A, Perez MA, Perrone CM, Bae CJ, Pruitt AA, Lancaster E. A case series of PD-1 inhibitor-associated paraneoplastic neurologic syndromes. *J Neuroimmunol*. 2019;334:576980. doi:10.1016/j.jneuroim.2019.576980
11. Hottinger AF, de Micheli R, Guido V, Karampera A, Hagmann P, Du Pasquier R. Natalizumab may control immune checkpoint inhibitor-induced limbic encephalitis. *Neurol Neuroimmunol Neuroinflamm*. 2018;5(2):e439. doi:10.1212/NXI.0000000000000439
12. Kapadia RK, Ney DE, Hannan M, et al. Glial fibrillary acidic protein (GFAP) associated autoimmune meningoencephalitis in a patient receiving nivolumab. *J Neuroimmunol*. 2020 Jul 15;344:577259. doi:10.1016/j.jneuroim.2020.577259
13. Kopecký J, Kubeček O, Geryk T, et al. Nivolumab induced encephalopathy in a man with metastatic renal cell cancer: a case report. *J Med Case Rep*. 2018;12(1):262. doi:10.1186/s13256-018-1786-9
14. Larkin J, Chmielowski B, Lao CD, et al. Neurologic Serious Adverse Events Associated with Nivolumab Plus Ipilimumab or Nivolumab Alone in Advanced Melanoma, Including a Case Series of Encephalitis. *Oncologist*. 2017;22(6):709-718. doi:10.1634/theoncologist.2016-0487
15. Leitinger M, Varosanec MV, Pikija S, et al. Fatal Necrotizing Encephalopathy after Treatment with Nivolumab for Squamous Non-Small Cell Lung Cancer: Case Report and Review of the Literature. *Front Immunol*. 2018;9:108. doi:10.3389/fimmu.2018.00108
16. Lyons S, Joyce R, Moynagh P, et al. Autoimmune encephalitis associated with Ma2 antibodies and immune checkpoint inhibitor therapy. *Pract Neurol*. 2020 May;20(3):256-259. doi:10.1136/practneurol-2019-002464
17. M B, M H, W D. A Case of Severe Encephalitis While on PD-1 Immunotherapy for Recurrent Clear Cell Ovarian Cancer. Gynecologic oncology reports. doi:10.1016/j.gore.2018.03.007
18. M I, S F, D F, et al. Rituximab for Nivolumab Plus Ipilimumab-Induced Encephalitis in a Small-Cell Lung Cancer Patient. Annals of oncology : official journal of the European Society for Medical Oncology. doi:10.1093/annonc/mdx252
19. Mandel JJ, Olar A, Aldape KD, Tremont-Lukats IW. Lambrolizumab induced central nervous system (CNS) toxicity. *J Neurol Sci*. 2014;344(1-2):229-231. doi:10.1016/j.jns.2014.06.023
20. Matsuoka H, Kimura H, Koba H, et al. Nivolumab-induced Limbic Encephalitis with Anti-Hu Antibody in a Patient With Advanced Pleomorphic Carcinoma of the Lung. *Clin Lung Cancer*. 2018;19(5):e597-e599. doi:10.1016/j.cllc.2018.04.009
21. Papadopoulos KP, Romero RS, Gonzalez G, Dix JE, Lowy I, Fury M. Anti-Hu-Associated Autoimmune Limbic Encephalitis in a Patient with PD-1 Inhibitor-Responsive Myxoid Chondrosarcoma. *Oncologist*. 2018;23(1):118-120. doi:10.1634/theoncologist.2017-0344
22. Quach HT, Robbins CJ, Balko JM, et al. Severe Epididymo-Orchitis and Encephalitis Complicating Anti-PD-1 Therapy. *Oncologist*. 2019;24(7):872-876. doi:10.1634/theoncologist.2018-0722
23. Raskin J, Masrori P, Cant A, et al. Recurrent dysphasia due to nivolumab-induced encephalopathy with presence of Hu autoantibody. *Lung Cancer*. 2017;109:74-77. doi:10.1016/j.lungcan.2017.05.002
24. Richard K, Weslow J, Porcella SL, Nanjappa S. A Case Report of Steroid Responsive Nivolumab-Induced Encephalitis. *Cancer Control*. 2017;24(5):1073274817729069. doi:10.1177/1073274817729069
25. Robert L, Langner-Lemercier S, Angibaud A, et al. Immune-related Encephalitis in Two Patients Treated With Immune Checkpoint Inhibitor. *Clin Lung Cancer*. 2020 Sep;21(5):e474-e477. doi:10.1016/j.cllc.2020.03.006
26. S G, C L, N K, et al. Encephalitis Induced by Immune Checkpoint Inhibitors in Metastatic Melanoma: A Monocentric Retrospective Study. Journal of the European Academy of Dermatology and Venereology : JEADV. doi:10.1111/jdv.15756
27. Salam S, Lavin T, Turan A. Limbic encephalitis following immunotherapy against metastatic malignant melanoma. *BMJ Case Rep*. 2016;2016. doi:10.1136/bcr-2016-215012
28. Schneider S, Potthast S, Komminoth P, Schwegler G, Böhm S. PD-1 Checkpoint Inhibitor Associated Autoimmune Encephalitis. *Case Rep Oncol*. 2017;10(2):473-478. doi:10.1159/000477162
29. Shah N, Jacob J, Househ Z, Shiner E, Baird L, Soudy H. Unchecked immunity: a unique case of sequential immune-related adverse events with Pembrolizumab. *J Immunother Cancer*. 2019;7(1):247. doi:10.1186/s40425-019-0727-5
30. Shah S, Dunn-Pirio A, Luedke M, Morgenlander J, Skeen M, Eckstein C. Nivolumab-Induced Autoimmune Encephalitis in Two Patients with Lung Adenocarcinoma. *Case Rep Neurol Med*. 2018;2018:2548528. doi:10.1155/2018/2548528
31. Shibaki R, Murakami S, Oki K, Ohe Y. Nivolumab-induced autoimmune encephalitis in an anti-neuronal autoantibody-positive patient. *Jpn J Clin Oncol*. 2019;49(8):793-794. doi:10.1093/jjco/hyz087
32. Strik H, Keber U, Hammoud WA, et al. Immune checkpoint inhibitor-associated CNS autoimmune disorder (ICICAD) following nivolumab treatment: A new entity of drug-induced autoimmune encephalitis? *Eur J Cancer*. 2017;87:205-208. doi:10.1016/j.ejca.2017.09.026
33. Tatsumi S, Uryu K, Iwasaki S, et al. A Case of Anti-CRMP5 Paraneoplastic Neurological Syndrome Induced by Atezolizumab for Small Cell Lung Cancer. *Intern Med*. 2020 Aug 12. doi: 10.2169/internalmedicine.4889-20
34. Vogrig A, Ferrari S, Tinazzi M, Manganotti P, Vattemi G, Monaco S. Anti-Ma-associated encephalomyeloradiculopathy in a patient with pleural mesothelioma. *J Neurol Sci*. 2015;350(1-2):105-106. doi:10.1016/j.jns.2015.01.028
35. Vogrig A, Fouret M, Joubert B, et al. Increased frequency of anti-Ma2 encephalitis associated with immune checkpoint inhibitors. *Neurol Neuroimmunol Neuroinflamm*. 2019;6(6). doi:10.1212/NXI.0000000000000604
36. Williams TJ, Benavides DR, Patrice K-A, et al. Association of Autoimmune Encephalitis With Combined Immune Checkpoint Inhibitor Treatment for Metastatic Cancer. *JAMA Neurol*. 2016;73(8):928-933. doi:10.1001/jamaneurol.2016.1399
37. Yamaguchi Y, Nagasawa H, Katagiri Y, et al. Atezolizumab-associated encephalitis in metastatic lung adenocarcinoma: a case report. *J Med Case Rep*. 2020 Jul 4;14(1):88. doi: 10.1186/s13256-020-02411-y
38. Zekeridou A, Kryzer T, Guo Y, et al. Phosphodiesterase 10A IgG: A novel biomarker of paraneoplastic neurologic autoimmunity. *Neurology*. 2019;93(8):e815-e822. doi:10.1212/WNL.0000000000007971

**Meningitis**

1. Bompaire F, Mateus C, Taillia H, et al. Severe meningo-radiculo-neuritis associated with ipilimumab. *Invest New Drugs*. 2012;30(6):2407-2410. doi:10.1007/s10637-011-9787-1
2. Bot I, Blank CU, Boogerd W, Brandsma D. Neurological immune-related adverse events of ipilimumab. *Pract Neurol*. 2013;13(4):278-280. doi:10.1136/practneurol-2012-000447
3. Fellner A, Makranz C, Lotem M, et al. Neurologic complications of immune checkpoint inhibitors. *J Neurooncol*. 2018;137(3):601-609. doi:10.1007/s11060-018-2752-5
4. Garcia CA, El-Ali A, Rath TJ, et al. Neurologic immune-related adverse events associated with adjuvant ipilimumab: report of two cases. j immunotherapy cancer. 2018;6:83. doi:10.1186/s40425-018-0393-z
5. Laserna A, Tummala S, Patel N, El Hamouda DEM, Gutiérrez C. Atezolizumab-related encephalitis in the intensive care unit: Case report and review of the literature. *SAGE Open Med Case Rep*. 2018;6:2050313X18792422. doi:10.1177/2050313X18792422
6. Oishi K, Nakao M, Maeda S, et al. A case of aseptic meningitis without neck rigidity occurring in a metastatic melanoma patient treated with ipilimumab. *Eur J Dermatol*. 2017;27(2):193-194. doi:10.1684/ejd.2016.2943
7. Spain L, Walls G, Julve M, et al. Neurotoxicity from immune-checkpoint inhibition in the treatment of melanoma: a single centre experience and review of the literature. *Ann Oncol*. 2017;28(2):377-385. doi:10.1093/annonc/mdw558
8. Stein MK, Summers BB, Wong CA, Box HL, Cleveland KO. Meningoencephalitis Following Ipilimumab Administration in Metastatic Melanoma. *Am J Med Sci*. 2015;350(6):512-513. doi:10.1097/MAJ.0000000000000584
9. Voskens CJ, Goldinger SM, Loquai C, et al. The price of tumor control: an analysis of rare side effects of anti-CTLA-4 therapy in metastatic melanoma from the ipilimumab network. *PLoS ONE*. 2013;8(1):e53745. doi:10.1371/journal.pone.0053745

**Demyelinating diseases**

1. Cao Y, Nylander A, Ramanan S, et al. CNS demyelination and enhanced myelin-reactive responses after ipilimumab treatment. *Neurology*. 2016;86(16):1553-1556. doi:10.1212/WNL.0000000000002594

2. Di Stefano AL, Savatovsky J, Feuvret L, et al. CNS inflammatory disorder after concurrent radiotherapy-temozolomide and nivolumab in a glioblastoma patient. *Neuro-oncology*. 2019;21(1):139-141. doi:10.1093/neuonc/noy168

3. Durães J, Coutinho I, Mariano A, Geraldo A, Macário MC. Demyelinating disease of the central nervous system associated with Pembrolizumab treatment for metastatic melanoma. *Mult Scler*. 2019;25(7):1005-1008. doi:10.1177/1352458518803724

4. Gerdes LA, Held K, Beltrán E, et al. CTLA4 as Immunological Checkpoint in the Development of Multiple Sclerosis. *Ann Neurol*. 2016;80(2):294-300. doi:10.1002/ana.24715

5. Maurice C, Schneider R, Kiehl T-R, et al. Subacute CNS Demyelination after Treatment with Nivolumab for Melanoma. *Cancer Immunol Res*. 2015;3(12):1299-1302. doi:10.1158/2326-6066.CIR-15-0141

6. Narumi Y, Yoshida R, Minami Y, et al. Neuromyelitis optica spectrum disorder secondary to treatment with anti-PD-1 antibody nivolumab: the first report. *BMC Cancer*. 2018;18(1):95. doi:10.1186/s12885-018-3997-2

7. Romeo MAL, Garassino MC, Moiola L, et al. Multiple sclerosis associated with pembrolizumab in a patient with non-small cell lung cancer. *Journal of Neurology*. 2019;266(12):3163–3166. doi: 10.1007/s00415-019-09562-z

8. Shimada T, Hoshino Y, Tsunemi T, et al. Neuromyelitis optica spectrum disorder after treatment with pembrolizumab. *Multiple Sclerosis and Related Disorders*. 2020;37:101447. doi: 10.1016/j.msard.2019.101447

**Myelitis**

1. Abdallah A-O, Herlopian A, Ravilla R, et al. Ipilimumab-induced necrotic myelopathy in a patient with metastatic melanoma: A case report and review of literature. *J Oncol Pharm Pract*. 2016;22(3):537-542. doi:10.1177/1078155215572932

2. Chang VA, Simpson DR, Daniels GA, Piccioni DE. Infliximab for treatment-refractory transverse myelitis following immune therapy and radiation. *J Immunother Cancer*. 2018;6(1):153. doi:10.1186/s40425-018-0471-2

3. Mancone S, Lycan T, Ahmed T, et al. Severe neurologic complications of immune checkpoint inhibitors: a single-center review. *J Neurol*. 2018;265(7):1636-1642. doi:10.1007/s00415-018-8890-z

4. O’Kane GM, Lyons TG, Colleran GC, et al. Late-onset paraplegia after complete response to two cycles of ipilimumab for metastatic melanoma. *Oncol Res Treat*. 2014;37(12):757-760. doi:10.1159/000368316

5. Poretto V, Buganza M, Filipponi S, et al. Hunting the real culprit: a complex case of nivolumab-related myelitis. (P4.2-006). *Neurology*. 2019;92 (15 Supplement);P4.2-006.

6. Wilson R, Menassa DA, Davies AJ, et al. Seronegative antibody-mediated neurology after immune checkpoint inhibitors. *Ann Clin Transl Neurol*. 2018;5(5):640-645. doi:10.1002/acn3.547

**Other syndromes**

1. Abe J, Sato T, Tanaka R, Okazaki T, Takahashi S. Nivolumab-Induced Severe Akathisia in an Advanced Lung Cancer Patient. *Am J Case Rep*. 2016;17:880-882. doi:10.12659/AJCR.900941

2. Ali S, Lee S-K. Ipilimumab Therapy for Melanoma: A Mimic of Leptomeningeal Metastases. *AJNR Am J Neuroradiol*. 2015;36(12):E69-70. doi:10.3174/ajnr.A4581

3. Carl D, Grüllich C, Hering S, Schabet M. Steroid responsive encephalopathy associated with autoimmune thyroiditis following ipilimumab therapy: a case report. *BMC Res Notes*. 2015;8:316. doi:10.1186/s13104-015-1283-9

4. Conry RM, Sullivan JC, Nabors LB. Ipilimumab-induced encephalopathy with a reversible splenial lesion. *Cancer Immunol Res*. 2015;3(6):598-601. doi:10.1158/2326-6066.CIR-15-0035

5. Dunn-Pirio AM, Shah S, Eckstein C. Neurosarcoidosis following Immune Checkpoint Inhibition. *Case Rep Oncol*. 2018;11(2):521-526. doi:10.1159/000491599

6. Ghosn J, Vicino A, Michielin O, Coukos G, Kuntzer T, Obeid M. A severe case of neuro-Sjögren’s syndrome induced by pembrolizumab. *J Immunother Cancer*. 2018;6(1):110. doi:10.1186/s40425-018-0429-4

7. Hussein HM, Dornfeld B, Schneider DJ. Nivolumab-induced posterior reversible encephalopathy syndrome. *Neurol Clin Pract*. 2017;7(5):455-456. doi:10.1212/CPJ.0000000000000362

8. Kao JC, Liao B, Markovic SN, et al. Neurological Complications Associated With Anti-Programmed Death 1 (PD-1) Antibodies. *JAMA Neurol*. 2017;74(10):1216-1222. doi:10.1001/jamaneurol.2017.1912

9. Kawamura R, Nagata E, Mukai M, et al. Acute Cerebellar Ataxia Induced by Nivolumab. *Intern Med*. 2017;56(24):3357-3359. doi:10.2169/internalmedicine.8895-17

10. Khoja L, Maurice C, Chappell M, et al. Eosinophilic Fasciitis and Acute Encephalopathy Toxicity from Pembrolizumab Treatment of a Patient with Metastatic Melanoma. *Cancer Immunol Res*. 2016;4(3):175-178. doi:10.1158/2326-6066.CIR-15-0186

11. LaPorte J, Solh M, Ouanounou S. Posterior reversible encephalopathy syndrome following pembrolizumab therapy for relapsed Hodgkin’s lymphoma. *J Oncol Pharm Pract*. 2017;23(1):71-74. doi:10.1177/1078155215620922

12. Läubli H, Hench J, Stanczak M, et al. Cerebral vasculitis mimicking intracranial metastatic progression of lung cancer during PD-1 blockade. *J Immunother Cancer*. 2017;5:46. doi:10.1186/s40425-017-0249-y

13. Maller B, Peguero E, Tanvetyanon T. Ipilimumab/Nivolumab-related Opsoclonus-Myoclonus-Ataxia Syndrome Variant in a Patient with Malignant Pleural Mesothelioma. *J Immunother*. 2018;41(9):411-412. doi:10.1097/CJI.0000000000000228

14. Mancone S, Lycan T, Ahmed T, et al. Severe neurologic complications of immune checkpoint inhibitors: a single-center review. *J Neurol*. 2018;265(7):1636-1642. doi:10.1007/s00415-018-8890-z

15. Maur M, Tomasello C, Frassoldati A, Dieci MV, Barbieri E, Conte P. Posterior reversible encephalopathy syndrome during ipilimumab therapy for malignant melanoma. *J Clin Oncol*. 2012;30(6):e76-78. doi:10.1200/JCO.2011.38.7886

16. McElnea E, Ní Mhéalóid A, Moran S, Kelly R, Fulcher T. Thyroid-like ophthalmopathy in a euthyroid patient receiving Ipilimumab. *Orbit*. 2014;33(6):424-427. doi:10.3109/01676830.2014.949792

17. Monteiro A, Gouveia E, Garcez D, et al. Challenges of New Approaches in Metastatic Merkel Cell Carcinoma. Case Rep Oncol. 2020;13(2):501-507. doi: 10.1159/000507279.

18. Naito T, Osaki M, Ubano M, Kanzaki M, Uesaka Y. Acute cerebellitis after administration of nivolumab and ipilimumab for small cell lung cancer. *Neurol Sci*. 2018;39(10):1791-1793. doi:10.1007/s10072-018-3465-4

19. Tan I, Malinzak M, Salama AKS. Delayed onset of neurosarcoidosis after concurrent ipilimumab/nivolumab therapy. *J Immunother Cancer*. 2018;6(1):77. doi:10.1186/s40425-018-0390-2

20. Tchapyjnikov D, Borst AJ. Immune-related Neurological Symptoms in an Adolescent Patient Receiving the Checkpoint Inhibitor Nivolumab. *J Immunother*. 2017;40(7):286-288. doi:10.1097/CJI.0000000000000177

21. Vitt JR, Kreple C, Mahmood N, Dickerson E, Lopez GY, Richie MB. Autoimmune pancerebellitis associated with pembrolizumab therapy. *Neurology*. 2018;91(2):91-93. doi:10.1212/WNL.0000000000005781

22. Vogrig A, Ferrari S, Tinazzi M, Manganotti P, Vattemi G, Monaco S. Anti-Ma-associated encephalomyeloradiculopathy in a patient with pleural mesothelioma. *J Neurol Sci*. 2015;350(1-2):105-106. doi:10.1016/j.jns.2015.01.028

23. Voskens CJ, Goldinger SM, Loquai C, et al. The price of tumor control: an analysis of rare side effects of anti-CTLA-4 therapy in metastatic melanoma from the ipilimumab network. *PLoS ONE*. 2013;8(1):e53745. doi:10.1371/journal.pone.0053745

24. Zurko J, Mehta A. Association of Immune-Mediated Cerebellitis With Immune Checkpoint Inhibitor Therapy. *Mayo Clin Proc Innov Qual Outcomes*. 2018;2(1):74-77. doi:10.1016/j.mayocpiqo.2017.12.001