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Adverse Events Associated with Immune Checkpoint Blockade

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To the Editor: Postow et al. describe options for treating the autoimmune effects of checkpoint blockade. We report abatacept as another potential option.

A 75-year-old man with stage IV metastatic melanoma had acute worsening of preexisting myasthenia gravis after receiving two doses of pembrolizumab. The patient required noninvasive positive-pressure ventilation for diaphragmatic muscle weakness that was unresponsive to plasma exchange, mycophenolate mofetil (at a dose of 500 mg twice daily), methylprednisolone (1 g daily), intravenous immunoglobulin (2 g per kilogram of body weight daily), and four weekly doses of rituximab (375 mg per square meter of body-surface area).¹ We reasoned that the patient's intractable exacerbation of myasthenia gravis was due to activated autoimmune clones, which could be reversed by blocking the "second signal" with the use of abatacept.^{1,2} Within 7 days after receiving 1 g of abatacept, the patient's muscle strength had improved enough that he could be taken off ventilation. A second dose of abatacept was administered after 14 days. On day 21, the patient walked out of the hospital while receiving only prednisone (60 mg daily). During 3 months of follow-up, there were no further episodes of muscle weakness. We think that targeting CD28–CD80 or CTLA-4 may be useful in reversing some autoimmune phenomena that are seen with immune checkpoint blockade.

References

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