

# Complete remission with Brentuximab Vedotin and Nivolumab in a patient with Hodgkin lymphoma refractory to chemotherapy and radiotherapy.

## A case report

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### Case Report

Internal Medicine



**Background:** Classical Hodgkin lymphoma (cHL) is a highly curable malignancy in most patients when treated with standard anthracycline-based chemotherapy regimens. However, a significant proportion of individuals experience relapse or demonstrate primary refractory disease. Salvage therapy in these scenarios often includes autologous stem cell transplantation, though not all patients are eligible. The combination of brentuximab vedotin (BV) and nivolumab (Nivo), targeting CD30 and the PD-1 immune checkpoint respectively, has shown considerable promise in heavily pretreated cases.

We report the case of a 47-year-old male with stage IIIB cHL, nodular sclerosis subtype, who failed to achieve complete remission with ABVD followed by radiotherapy. Disease progression with extranodal pulmonary involvement prompted the initiation of BV-Nivo combination therapy. Sixteen cycles were administered without major toxicity, resulting in complete metabolic response. Hematologic parameters remained within acceptable ranges throughout treatment. This case highlights the therapeutic potential of immunotherapy in refractory Hodgkin lymphoma, particularly in patients unfit for further radiotherapy or transplant.

**Keywords:** Hodgkin lymphoma, brentuximab vedotin, nivolumab, immunotherapy, refractory lymphoma, case report

Classical Hodgkin lymphoma is characterized by the presence of Reed-Sternberg cells in an inflammatory background and typically responds well to initial chemotherapy. ABVD remains a cornerstone in the treatment of advanced stages, yet up to one-third of patients will experience either early relapse or primary resistance. Historically, salvage chemotherapy followed by high-dose chemotherapy and autologous stem cell transplantation has been the preferred approach. Nonetheless, not all patients are eligible for transplant due to disease burden, comorbidities, or treatment-refractory progression.

In recent years, targeted therapies such as brentuximab vedotin—an anti-CD30 antibody-drug conjugate—and immune checkpoint inhibitors like nivolumab have emerged as viable options in the relapsed/refractory setting. Clinical trials have demonstrated their efficacy both individually and in combination.<sup>12</sup> This report illustrates the successful

use of BV and Nivo in a patient with cHL refractory to both chemotherapy and radiotherapy, underscoring their relevance in modern therapeutic algorithms.

### Case report

We report the case of a 47-year-old male with stage IIIB cHL, nodular sclerosis subtype, who failed to achieve complete remission with ABVD followed by radiotherapy. Disease progression with extranodal pulmonary involvement prompted the initiation of BV-Nivo combination therapy. Sixteen cycles were administered without major toxicity, resulting in complete metabolic response. Hematologic parameters remained within acceptable ranges throughout treatment. This case highlights the therapeutic potential of immunotherapy in refractory Hodgkin lymphoma, particularly in patients unfit for further radiotherapy or transplant.

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A detailed clinical follow-up of a patient with refractory Hodgkin lymphoma was performed. Diagnosis was confirmed histologically as classical Hodgkin lymphoma, nodular sclerosis subtype, Ann Arbor stage IIIB, with an IPI of 3. First-line treatment with ABVD was initiated, followed by consolidative radiotherapy. Disease progression was documented through thoracic CT scans showing bilateral pulmonary infiltrates, not responsive to localized radiation.

Given the cumulative radiation exposure and unsuitability for additional RT or transplant, the patient began a salvage regimen consisting of brentuximab vedotin (1.8 mg/kg IV) and nivolumab (3 mg/kg IV), administered every 21 days. Laboratory values, radiologic response (per RECIST 1.1), and cardiac function (via echocardiography) were monitored at regular intervals. The treatment protocol comprised 16 cycles over a period of several months. The patient tolerated the BV-Nivo combination well, with no episodes of febrile neutropenia or opportunistic infections. Blood counts remained within acceptable thresholds; although a trend toward decreasing lymphocyte and platelet counts was observed, no cycle delays or dose reductions were necessary.

At interim and final restaging, imaging revealed complete metabolic response. Echocardiographic follow-up demonstrated preserved left ventricular function with no signs of treatment-related cardiotoxicity. The patient completed all planned cycles of immunotherapy without interruption. Hematologic and metabolic profiles remained stable, with fatigue and mild asthenia as the only reported adverse events.

## Discussion

We report the case of a 47-year-old male with stage IIIB cHL, nodular sclerosis subtype, who failed to achieve complete remission with ABVD followed by radiotherapy. Disease progression with extranodal pulmonary involvement prompted the initiation of BV-Nivo combination therapy. Sixteen cycles were administered without major toxicity, resulting in complete metabolic response. Hematologic parameters remained within acceptable ranges throughout treatment. This case highlights the therapeutic potential of immunotherapy in refractory Hodgkin lymphoma, particularly in patients unfit for further radiotherapy or transplant.

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## Conclusion

The complete and sustained remission achieved in this patient with refractory Hodgkin lymphoma demonstrates the potential of brentuximab vedotin and nivolumab as a salvage strategy. Their use may be particularly valuable in patients who are ineligible for transplant or additional radiotherapy. This case reinforces the relevance of immunotherapy in overcoming treatment resistance and supports its integration into the management of advanced, refractory disease.

## Conflicts of interests

The authors have no financial or personal relationships that could inappropriately influence or bias the content of this article.

## References

1. Younes A, Santoro A, Shipp M, Zinzani PL, Timmerman JM, Ansell S, et al. Nivolumab for classical Hodgkin's lymphoma after failure of both autologous stem-cell transplantation and brentuximab vedotin: a multicentre, multicohort, single-arm phase 2 trial. *Lancet*

- Oncol. 2016;17(9):1283–94.  
[https://doi.org/10.1016/S1470-2045\(16\)30231-6](https://doi.org/10.1016/S1470-2045(16)30231-6)
2. Chen R, Gopal AK, Smith SE, Advani RH, Ansell SM, Rosen ST, et al. Five-year survival and durability results of brentuximab vedotin in patients with relapsed or refractory Hodgkin lymphoma. *Blood*. 2016;128(12):1562–6.  
<https://doi.org/10.1182/blood-2016-05-713511>

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