

An analytical study of the efficacy and safety of Brentuximab Vedotin in Hodgkin lymphoma



K. AMMINENI¹ , A. HASSAN², A. UMMEY³,T. MURALEEDHARAN⁴ , P. MOZAFARI⁵ , SRIJAMYA⁶
1.MBBS, PES institute of medical sciences and research, Kuppam, Andhra Pradesh, India.
2.MBBS, Dr. B.R. Ambedkar medical college, Karnataka, India.
3.MD, University of Perpetual help system, Manila, Philippines.
4.MBBS, ACS medical college, Chennai, India.
5.MD(Hons.), University of Georgia, Tbilisi, Georgia.
6.MD, ASMC, Lakhimpur Kheri, Uttar Pradesh, India.

INTRODUCTION

- Hodgkin lymphoma is a CD30 positive B-Cell malignancy characterized by Reed-Sternberg cells, comprising approximately 10% of all lymphomas.
- Despite high cure rates with conventional chemotherapy, some patients with advanced stage Hodgkin lymphoma (HL) develop relapse or refractory disease, requiring salvage regimens.
- Brentuximab vedotin (BV), an anti-CD30 antibody drug conjugate, has demonstrated promising activity in CD30 expressing malignancies and represents a targeted approach to improve disease control while potentially mitigating long-term sequelae.

AIM

The study aims to assess the efficacy and safety of BV in pediatric and adult HL patients.

METHODS

The study analyses the recent clinical trials evaluating the efficacy and safety of BV-containing regimens in HL, focusing on key endpoints- progression-free survival (PFS), incidence of adverse events (AEs),event free survival(EFS).

CONCLUSIONS

- BV-containing regimens significantly improve disease control in both pediatric high-risk and adult advanced HL, reducing the risk of progression or death by 59% in pediatric high-risk patients and by 32% in adults with a manageable safety profile.
- Adding BV to treatment enables potent, targeted therapy that may decrease the dependence on more toxic agents and need to be considered as a part of standard first-line and salvage strategies in CD30-positive HL.

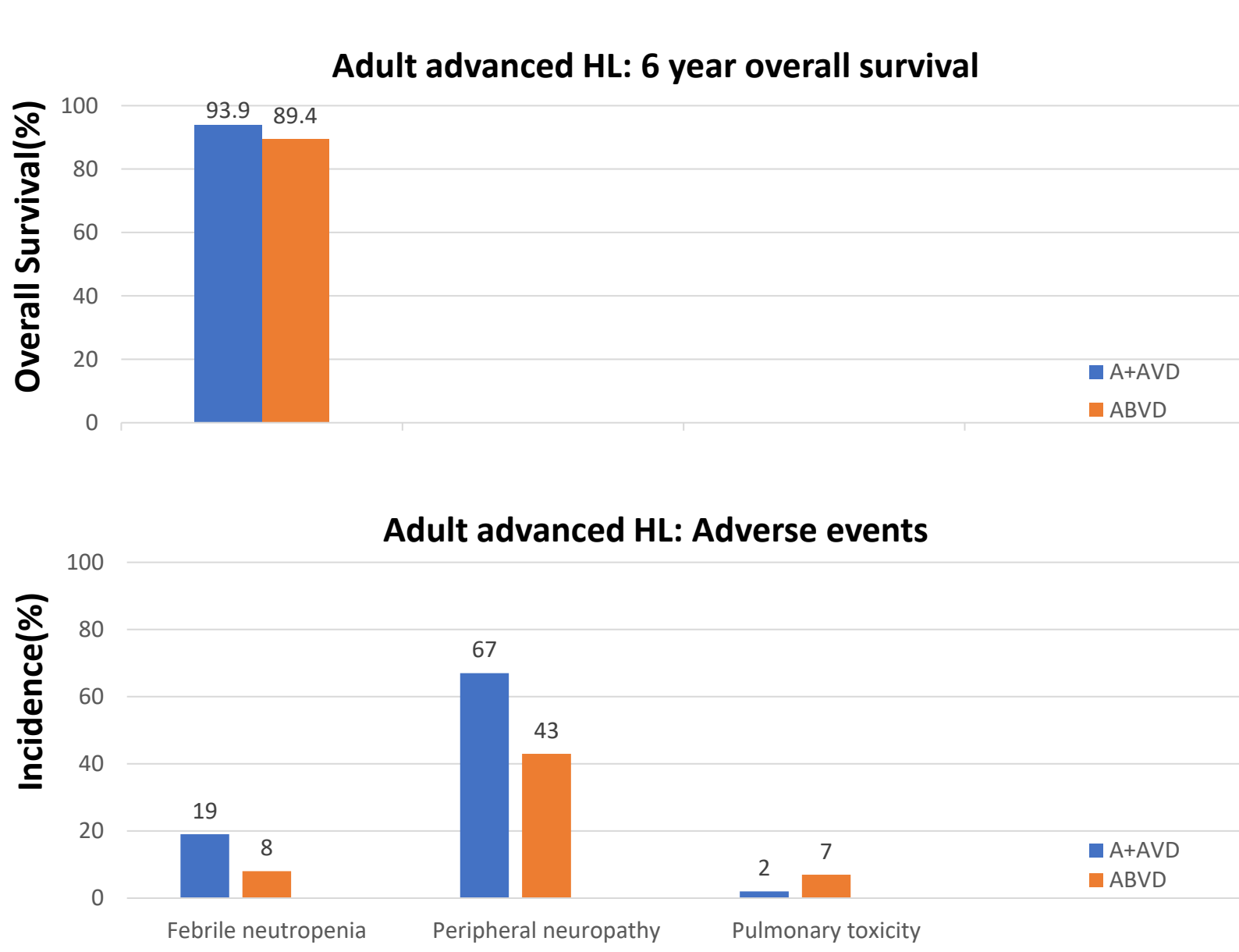
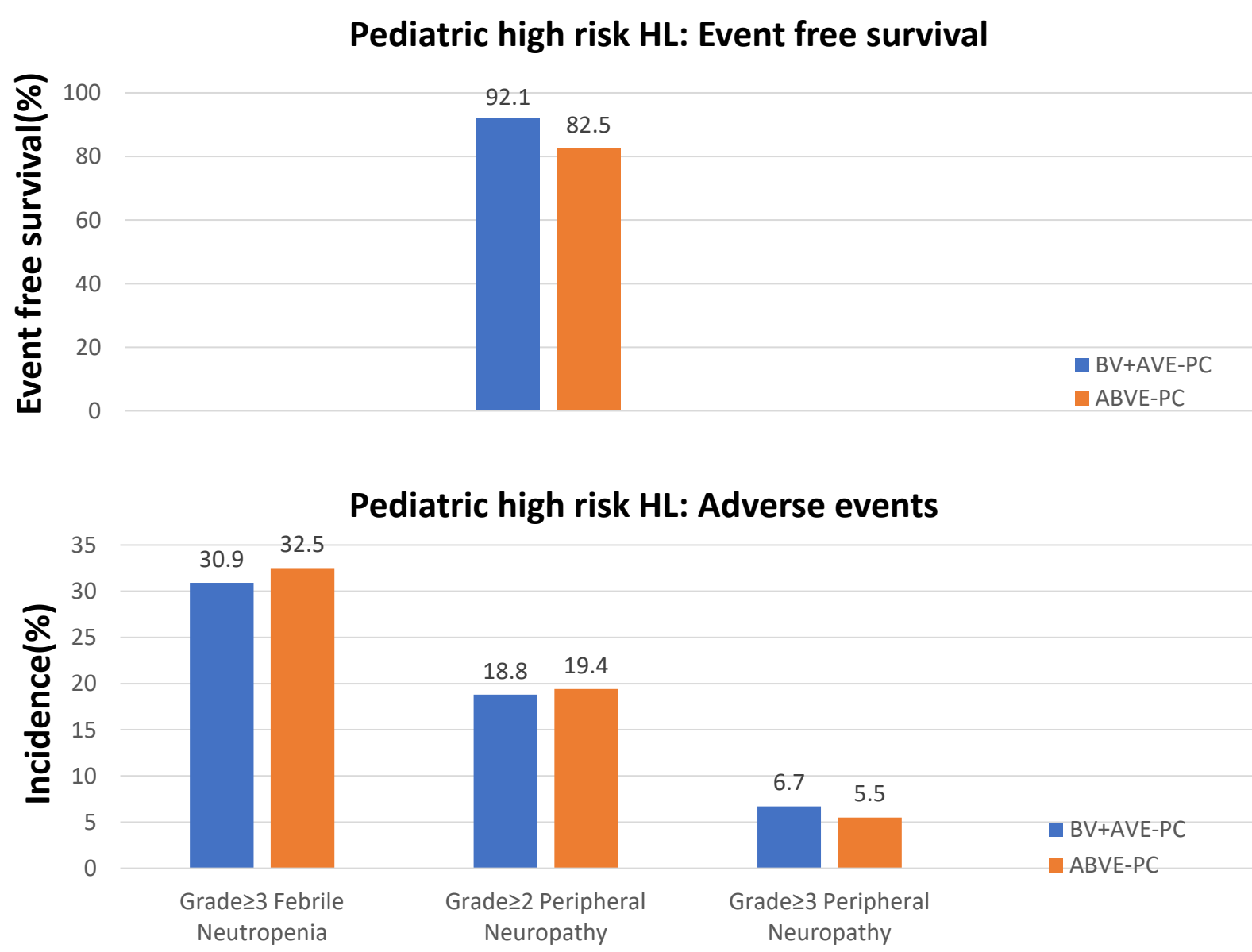
RESULTS

Paediatric High-Risk HL:

- The studies have shown that patients with therapy of BV + AVE-PC (doxorubicin, vincristine, etoposide, prednisone, cyclophosphamide) has 92.1% event free survival compared to 82.5% with standard ABVE-PC (doxorubicin, bleomycin, vincristine, etoposide, prednisone, cyclophosphamide).
- Grade ≥ 3 febrile neutropenia: 30.9%(BV + AVE-PC) vs 32.5% (ABVE-PC)
- Grade ≥ 2 peripheral neuropathy: 18.8% (BV + AVE-PC) vs 19.4% (ABVE-PC)
- Grade ≥ 3 peripheral neuropathy: 6.7% (BV + AVE-PC) vs 5.5% (ABVE-PC)

Adult Advanced HL:

- First-line A+AVD (BV + doxorubicin, vinblastine, dacarbazine) vs ABVD (Doxorubicin, Bleomycin, Vinblastine, Dacarbazine) demonstrated 6-year overall survival of 93.9% vs 89.4% and improved Progression-free survival with A+AVD.
- Febrile neutropenia : 19%(A+AVD) vs 8%(ABVD),
- peripheral neuropathy: 67%(A+AVD) vs 43%(ABVD). Pulmonary toxicity: 2% (A+AVD) vs 7% (ABVD).



ACKNOWLEDGEMENTS

We acknowledge the Medjections team for their mentorship and guidance in writing the manuscript.

CONTACT INFORMATION

amminenikavya23@gmail.com

REFERENCES

- 1.Castellino SM, Pei Q, Parsons SK, Hodgson D, McCarten K, Horton T, et al. Brentuximab vedotin with chemotherapy in pediatric high-risk Hodgkin's lymphoma. N Engl J Med. 2022;387(18):1649-1660. doi:10.1056/NEJMoa2206660.
2. Ansell SM, Radford J, Connors JM, Długosz-Danecka M, Kim WS, Gallamini A, et al. Overall survival with brentuximab vedotin in stage III or IV Hodgkin's lymphoma. N Engl J Med. 2022;387(4):310-20. doi:10.1056/NEJMoa2206125.
3. Connors JM, Jurczak W, Straus DJ, Ansell SM, Kim WS, Gallamini A, et al. Brentuximab vedotin with chemotherapy for stage III or IV Hodgkin's lymphoma. N Engl J Med. 2018;378(4):331-44. doi:10.1056/NEJMoa1708984.