

Le brentuximab vedotin en frontline dans le traitement du lymphome de Hodgkin stade avancé

Expérience du service d'hématologie ANNABA

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INTRODUCTION

Le traitement du lymphome de Hodgkin (LH) stade avancé a considérablement évolué grâce aux progrès des thérapies ciblées. Le brentuximab vedotin (BV), un anticorps monoclonal conjugué dirigé contre le CD30, a récemment montré un potentiel important en traitement de première ligne, offrant une alternative ou un complément aux traitements classiques tels que la chimiothérapie de type ABVD. **L'objectif** de notre travail est d'évaluer l'efficacité et la tolérance du BV en frontline dans le traitement du lymphome de Hodgkin stade avancé.

MATÉRIEL ET MÉTHODE

Il s'agit d'une étude monocentrique, prospective de type cohorte à visée analytique, intéressant 08 patients atteints d'un lymphome de Hodgkin CD15+CD30+ de stade avancé, durant la période allant du mois de Mai 2025 jusqu'au mois d'Aout 2025, parmi ces patients uniquement 03 étaient évaluable.

RÉSULTATS

Les caractéristiques épidémiologiques:

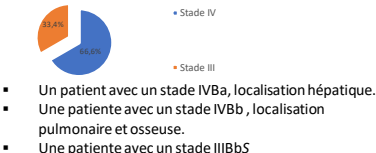
- **L'âge moyen** de nos patientes est de 40 ans avec des extrêmes de [32-51 ans].
- **Le sex ratio** à 0,5

Les caractéristiques immunohistochimiques:

Nos patients avaient le même type histologique du LH (Type 2), exprimant le CD30+ (Cible thérapeutique) et CD15+.

La classification Ann Arbor:

Graph 1: Répartition selon la classification Ann Arbor



Le pronostic:

Graph 2: Répartition selon le risque pronostic



Le bilan d'extension et pré thérapeutique:

Tableau 1: Bilan d'extension et préthérapeutique

Bilan d'extension pré thérapeutique	Nombre de patients	RQ
TEP-Scanner	1	/
TDM CTAP	2	/
ENMG (Neuropathie périphérique)	3	1

Le traitement:

- **Le BV** a été instauré en **combinaison avec une chimiothérapie type AVD (ECHELON 1)** à la dose de **1,2mg/kg/15jrs**.
- **L'évaluation** a été faite **après 2 cycles** de traitement par le **pet-scanner**, retrouvant une **réponse métabolique complète** chez les trois patients avec un score de Deauville 1-2. La décision était de **poursuivre le même protocole jusqu'à 06 cycles** de BV-AVD.
- **Aucun effet indésirable** n'a été noté au cours du traitement et jusqu'à présent.

DISCUSSION

Dans notre série de trois patients évaluable, traités selon le protocole **BV-AVD**, nous avons observé :

- Une **réponse métabolique complète précoce** après 2 cycles chez **100 %** des patients,
- **Aucun effet indésirable** rapporté, notamment pas de neuropathie ni de neutropénie significative,
- Un **profil homogène** (LH classique, CD30+, stade III-IV, haut risque IPS).

Ces résultats sont en accord avec les données de l'essai **ECHELON-1** (Ansell *et al.*, *NEJM*, 2018), qui a démontré une supériorité du **BV-AVD** sur l'ABVD en termes de **survie sans progression à 2 ans** (82,1 % vs 77,2 %), avec un **profil de sécurité amélioré** (absence de toxicité pulmonaire due à la bléomycine).

CONCLUSION

Le brentuximab vedotin montre un potentiel prometteur en tant que traitement de première ligne pour le lymphome de Hodgkin de stade avancé, avec une efficacité notable et un profil de sécurité généralement bien toléré. Ces résultats suggèrent qu'il pourrait offrir une alternative à la chimiothérapie traditionnelle, mais des études supplémentaires sont nécessaires pour confirmer son rôle dans le traitement de première ligne.

Références bibliographiques:

1. American Society of Clinical Oncology (ASCO). The top five advances in modern oncology. <https://www.asco.org/Top-5-Advances-in-Modern-Oncology>. oncology (2014), accessed 12 February 2019.
2. Ansell SM, Coatsworth JM, Raffeld JA, et al. First-line brentuximab vedotin-based chemotherapy improves overall survival in patients with stage II/III classical Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
3. Casanova R, O. Boudiaballah, A. Sraï F, et al. PET-adapted treatment for newly diagnosed advanced Hodgkin lymphoma. (AHL2011): a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
4. Coatsworth JM, Hazzazi M, Strauss D, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma. *N Engl J Med* 2018; 378: 331-344.
5. Coatsworth JM, Hazzazi M, Strauss D, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma. *N Engl J Med* 2018; 378: 331-344.
6. Schmitt CA, Panchan A, Khandel S, et al. Hematologic toxicity in the treatment of advanced classical Hodgkin lymphoma: The impact of phase 3 randomized trial by the German Hodgkin Study Group. *Lancet Oncol* 2017; 18: 1680-1687.
7. Avram AM, Hong F, Gordon LJ, et al. The efficacy and tolerability of adactin, bleomycin, vinorelbine, doxorubicin and Stanford V in older Hodgkin lymphoma: a comprehensive analysis from the North American Intergroup trial. *Br J Haematol* 2013; 161(1):76-86.
8. Panchan A, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
9. Fardipour M, Li H, Casanova R, et al. A phase I/II study of brentuximab vedotin in patients with relapsed/refractory CD30-positive Hodgkin lymphoma. *Mayo Clin Proc* 2012; 87: 248-255.
10. Hazzazi M, Li H, Casanova R, et al. A phase I/II study of brentuximab vedotin in patients with relapsed/refractory CD30-positive Hodgkin lymphoma. *Mayo Clin Proc* 2012; 87: 248-255.
11. Newland AM, Li H, Wenzel K, et al. Brentuximab vedotin in CD30-expressing relapsed and refractory Hodgkin lymphoma: a phase I/II study. *Br J Haematol* 2013; 153: 93-104.
12. Boudiaballah A, O. Boudiaballah, A. Sraï F, et al. PET-adapted treatment for newly diagnosed advanced Hodgkin lymphoma. (AHL2011): a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
13. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
14. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
15. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
16. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
17. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
18. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
19. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
20. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
21. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
22. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
23. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
24. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
25. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
26. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
27. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
28. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
29. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
30. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
31. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
32. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
33. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
34. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
35. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
36. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
37. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
38. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
39. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
40. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
41. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
42. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
43. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
44. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
45. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
46. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
47. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
48. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
49. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
50. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
51. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
52. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
53. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
54. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
55. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
56. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
57. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
58. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
59. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
60. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
61. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
62. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
63. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
64. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
65. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
66. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
67. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
68. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
69. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
70. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
71. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
72. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
73. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
74. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
75. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
76. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
77. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
78. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
79. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
80. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
81. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
82. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
83. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
84. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
85. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
86. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
87. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
88. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
89. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
90. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
91. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol* 2019;20(2):202-215.
92. Strauss D, Coatsworth JM, Hazzazi M, et al. First-line brentuximab vedotin in combination with doxorubicin, etoposide, and cyclophosphamide for stage III or IV Hodgkin lymphoma: a randomized, multicenter, noninferiority, phase 3 study. *Lancet Oncol*