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Escalated BEACOPDac as first line therapy in 100 Hodgkin lymphoma patients reduces red cell transfusion requirements and may shorten time to menstrual period recovery whilst maintaining efficacy compared to escalated BEACOPP.

Anna Santarsieri[1], Katherine Sturgess[1], Pauline Brice[2], Tobias F Menne[3], Wendy Osborne[3], Thomas Creasey[4], Kirit M. Ardeshna[5], Sarah Behan[1], Stephen Booth[6], Graham P. Collins[7], Kate Cwynarski[5], Sunil Iyengar[8], Stephen G Jones[9], Deirdre O'Mahony[10], Nicolas Martinez-Calle[11], Pamela McKay[12], Sateesh K Nagumantry[13], John F Rudge[14], Nimish Shah[15], Gwyneth Stafford[1], Alexander Sternberg[16], Benjamin J Uttenthal[1], Andrew K McMillan[17] and George A Follows[1]

[1]Cambridge University Hospitals NHSFT; [2]Hôpital Saint-Louis, Paris, FRA; [3]Freeman Hospital, Newcastle upon Tyne Hospitals NHS Foundation Trust; [4]Newcastle University Hospitals NHSFT; [5]University College London Hospitals NHS Trust; [6]Oxford University Hospitals;[7]Oxford University Hospitals NHS Foundation Trust; [8]The Royal Marsden NHS Foundation Trust; [9]Sherwood Forest Hospitals NHS Trust; [10]Cork University Hospital, [11]Nottingham University Hospitals NHS Trust; [12]Beatson West of Scotland Cancer Centre; [13]Peterborough City Hospital, [14]Department of Earth Sciences, Bullard Laboratories, Cambridge; [15]Norfolk and Norwich University Hospitals NHS Foundation Trust; [16]Great Western Hospital, Swindon; [17]Nottingham City Hospital.

NHS Cambridge University Hospitals NHS Foundation Trust

INTRODUCTION

Since interim results from the EuroNet-PHL-C1 study[1] were published in 2013 showing that the gonadotoxic drug procarbazine in COPP can be safely replaced with dacarbazine (COPDac) it is increasingly common practice in the UK and other countries to modify escalated BEACOPP (eBPP) by removing oral procarbazine and replacing it with intravenous dacarbazine (250mg/m2 D2-3), hoping to reduce haematopoietic stem cell and gonadal toxicity. However, published data of 'escalated BEACOPDac (eBPDac)' regimen are limited.

AIM

- To present the outcomes of patients treated first line with eBPDac for advanced stage Hodgkin lymphoma and compare with matched patients treated with eBPP.
- Outcomes measured:
  - Total number of cycles of chemotherapy
  - iPET2 Deauville score
  - In cycles 1-4: mean day 8 neutrophils, mean day 8 ALT, non-elective hospital admission days, units of red cells transfused
  - In women <35 years, date of return of menstruation post-chemotherapy and number of cycles of chemotherapy
  - PFS and OS

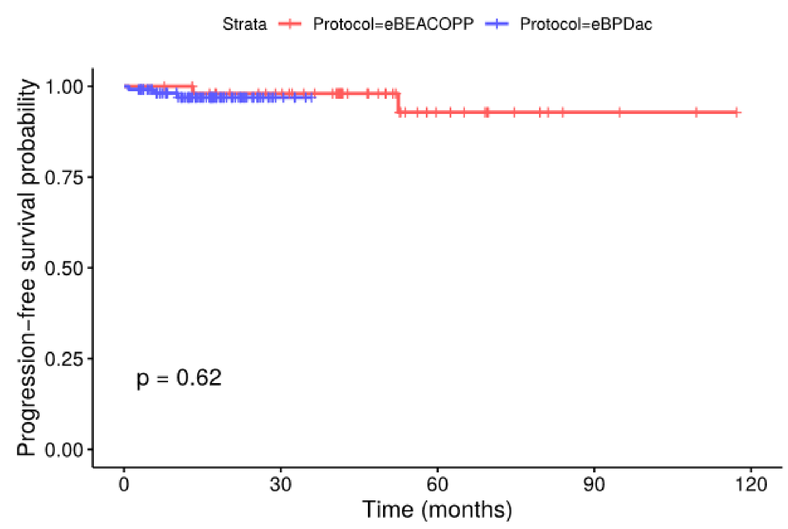
METHOD

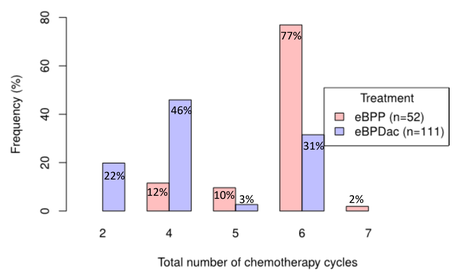
This is a retrospective study of 163 patients from 15 centres in UK, Ireland and France. Patients with eBPP were treated between 2009 – 2017 mainly on HD15 protocol and patients with eBPDac were treated between 2017 – 2019 mainly on HD18 (with iPET2 Deauville score of 3 counting as negative) and some on HD15 protocol. 24 patients treated in Paris followed the AHL2011 protocol with two courses eBPDac upfront and if iPET2 neg (using SUV Max <140%) were de-escalated to 4 cycles of ABVD. Patients who received only two cycles eBPDac upfront are included in analysis of iPET2 Deauville score and progression-free survival. However these ABVD patients have not been included in analysis of toxicity and return of menstruation. One patient in eBPDac group and one patient in eBPP group received radiotherapy at the end of their treatment.

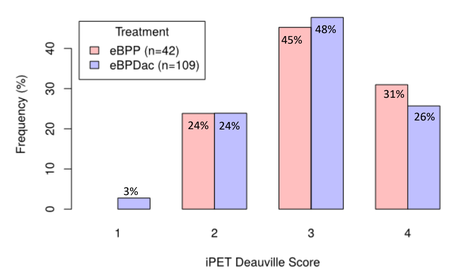
RESULTS

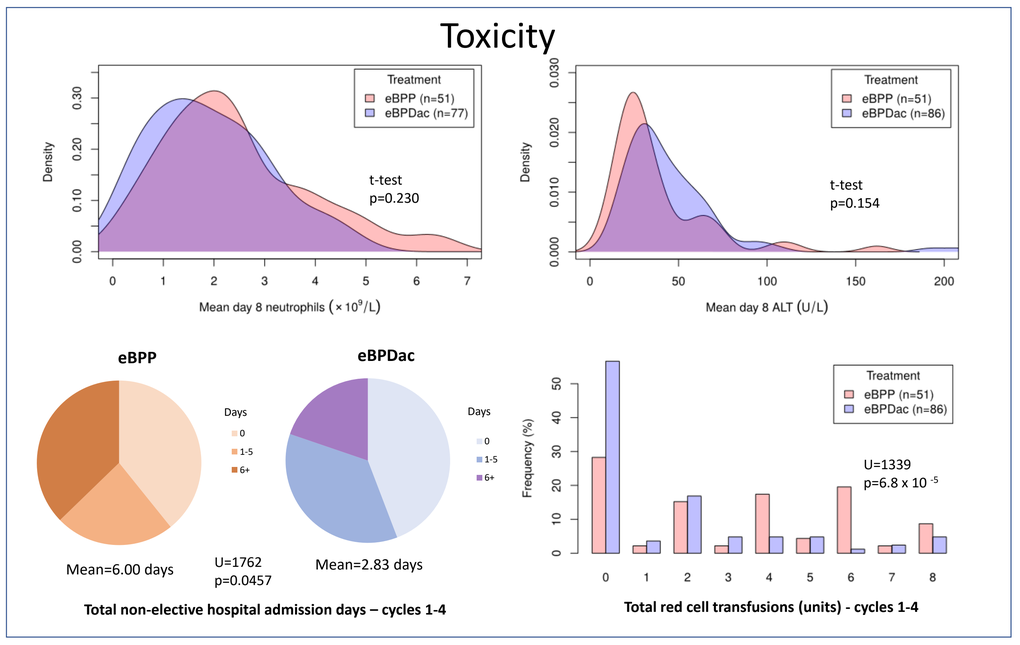
PATIENT CHARACTERISTICS N=163

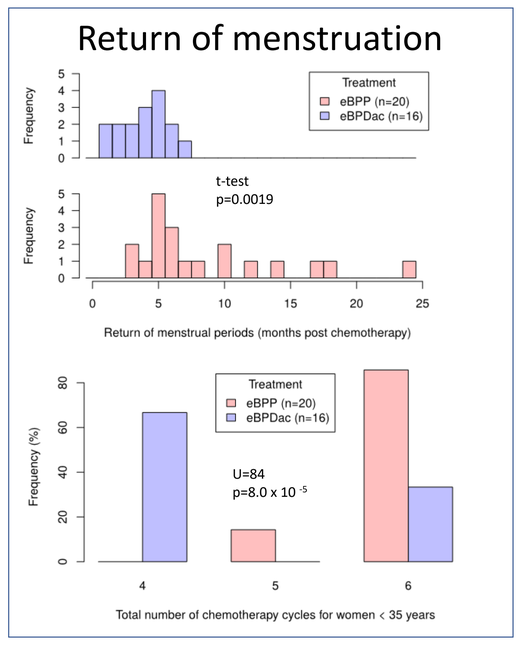
Baseline Characteristics	Escalated BEACOPP N=52	Escalated BEACOPDac N=111	p-value
Median age (range)	22 (16-54)	27 (16-62)	U=2298, p=0.142
Male sex (%)	25 (48%)	68 (61%)	Fisher, p=0.129
Stage 2B/2X/2XB 3 4	11 (21%) 8 (15%) 33 (63%)	19 (17%) 21 (19%) 71 (64%)	Fisher, p=0.760
IPS 0-2 3-4 5-7 IPS ≥3	13 (25%) 29 (55%) 10 (19%) 39 (75%)	38 (34%) 54 (49%) 19 (17%) 73 (66%)	Fisher, p=0.279
Median follow-up from diagnosis in months (range)	44.6 (7.6-117.2)	16.4 (0.9-35.9)	U=383 P<2.0x10^{-16}











CONCLUSIONS

- Of 111 eBPDac patients, 110 are alive and 108 continue in first remission with 16 months median follow-up. A 56 year-old-patient (IPS 5) died of small bowel perforation during cycle 1. Two patients have progressed (1 x primary refractory disease and 1 x PD at 7 months).
- Of 52 eBPP patients, 2 relapses at 13 months and 41 months (died from PD at 50 months).
- The iPET2 Deauville score was ≤3 in 74% of eBPDac and 69% of eBPP patients (p=0.544).
- eBPDac patients received fewer red cell transfusions in cycles 1-4 than eBPP patients (mean: 1.8 units vs 4.3 units; p<0.001).
- eBPDac patients had fewer non-elective hospital admissions days in cycles 1-4 than eBPP patients (mean: 2.8 days vs 6.0 days; p=0.0457).
- eBPDac patients restarted menstruation earlier post chemotherapy completion (mean: 3.94 months vs 8.65 months; p=0.002) although eBPP patients received more chemotherapy cycles which makes these data harder to interpret.
- Substituting dacarbazine for procarbazine is unlikely to compromise the efficacy of eBPP and likely reduces the gonadal and stem cell toxicity of the regimen. We believe our data support the use of this protocol modification in routine non-trial clinical practice.

REFERENCES

[1] Landman-Parker, J.W., Hasenclever, H., Balwierz, D., Karlen, W., Fossa, J., Daw, A. & Mauz-Korholz, S. (2016) First international inter-group study for classical hodgkin lymphoma in children and adolescents: EuroNet-PHL-C1. Report of the latest interim analysis. 10th International Symposium on Hodgkin Lymphoma, Cologne, October 22–25, 2016. Haematologica. Haematologica, 101, 1–80.

CONTACT INFORMATION

If you would like to contribute data to this study, please email: Anna.Santarsieri1@nhs.net