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ELEVENTH ANNUAL MEETING

Long-term outcomes of bulky classic Hodgkin lymphoma managed with a PET-adapted approach demonstrate excellent outcomes in PET-negative cases

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BC CANCER

INTRODUCTION

- Consolidative, and predominantly, mediastinal radiotherapy (RT) has historically been administered to patients (pts) with classic Hodgkin lymphoma (cHL) with bulky disease
- Secondary long-term complications of RT remain a concern
- A recent phase 3 study established that RT may be omitted in bulky cHL treated with ABVD with a negative end of treatment (EOT) PET scan[1]
- Current knowledge gaps: Limited long-term follow-up, information for those with bulk defined as ≥10 cm, and outcomes using Deauville scoring
- A PET-adapted approach to guide RT in advanced stage cHL including those with any bulky disease, was adopted in British Columbia (BC) since 2005

  6 cycles of ABVD → EOT PET positive (pos) → RT
  → EOT (or interim) PET neg → observation

AIM

- To evaluate the long-term outcomes of cHL patients with bulky disease managed with a PET-adapted approach in BC, Canada

METHOD

- Inclusion criteria: age >16 years, bulky (≥10cm) cHL, treated with curative intent 6 cycles of ABVD
- Exclusion: progressive disease during treatment or at EOT evaluation
- Earlier PET scans (<2014) assessed by the IHP criteria were re-reviewed (blinded to outcome) to assign a Deauville (D) score
  - PET-neg=D1-3, DX
  - PET-pos=D4-5
- Freedom from treatment failure (FFTF): pathologic diagnosis to relapse/ progression of HL, or death due to HL or treatment toxicity
- Overall survival (OS): pathologic diagnosis to death due to any cause

RESULTS

Table 1. Patient characteristics

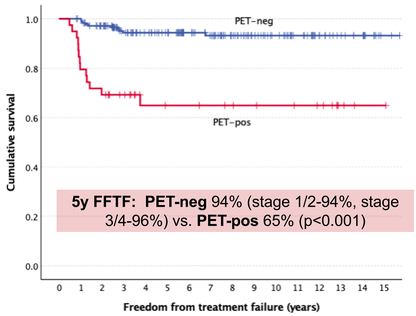
Variable	n (%); total n=215
Sex	Male: 115 (53.5%) Female: 100 (46.5%)
Median age	29 y (range 17-72 y)
Median follow up	6.75 y (range 0.8-15.75 y)
Stage 1 2 3 4	 4 (2%) 140 (65%) 17 (8%) 54 (25%)
IPS score ≥ 4	39 (18%)
ECOG PS ≥ 2	37 (17%)
B symptoms	118 (55%)
Bulky mediastinal mass	192 (89%)
Median mass size	11 cm (range 10-21 cm)
Real-time EOT-PET PET-neg PET-pos	 176 (82%) 39 (18%)
EOT-PET by Deauville score* (available n=213) DX D1 D2 D3 D4 D5	 30 (14%) 76 (36%) 60 (28%) 16 (7.5%) 24 (11%) 7 (3%) PET-neg n= 182 (85%) PET-pos n= 31(15%)
Residual mass	184 (86%)
Consolidative RT in EOT PET pos cases	34/39 (87%)
Mediastinal RT	29/34 (85%)
Bleomycin toxicity	12 (6%)

*images not available for re-review n=2; 5 pts PET2-neg scan that was not repeated

23 relapses:

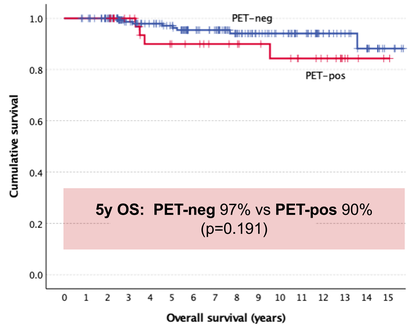
- 10 PET-neg: 7 in what would have been the RT field (residual mass), 3 in/outside field
- 13 PET-pos: 5 in-field, 8 in/outside field
- 2 late relapse (≥3y from diagnosis): 1/176 (0.6%) PET-neg; 1/39 (2.6%) PET-pos

Fig 1. FFTF by EOT PET scan



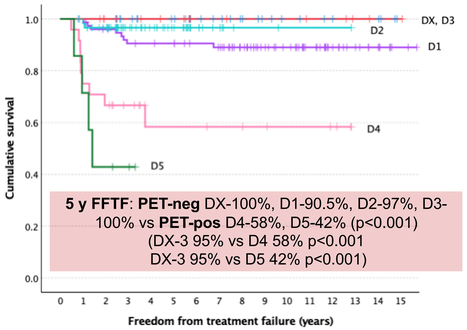
5y FFTF: PET-neg 94% (stage 1/2-94%, stage 3/4-96%) vs. **PET-pos** 65% (p<0.001)

Fig 2. OS by EOT PET scan



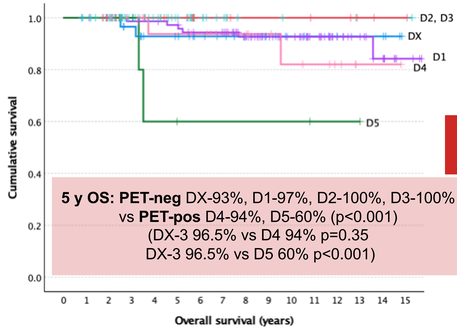
5y OS: PET-neg 97% vs **PET-pos** 90% (p=0.191)

Fig 3. FFTF by EOT PET scan Deauville score



5 y FFTF: **PET-neg** DX-100%, D1-90.5%, D2-97%, D3-100% vs **PET-pos** D4-58%, D5-42% (p<0.001)
(DX-3 95% vs D4 58% p<0.001
DX-3 95% vs D5 42% p<0.001)

Fig 4. OS by EOT PET scan Deauville score



5 y OS: PET-neg DX-93%, D1-97%, D2-100%, D3-100% vs **PET-pos** D4-94%, D5-60% (p<0.001)
(DX-3 96.5% vs D4 94% p=0.35
DX-3 96.5% vs D5 60% p<0.001)

CONCLUSIONS

- With a median follow-up of almost 7 years, we demonstrate that patients with bulky cHL with an EOT PET-neg scan have excellent outcomes (5y FFTF 94%, 5y OS 97%) without RT
- Patients with EOT PET-neg scan have excellent 5y FFTF, regardless of initial stage (stage 1/2-94%, stage 3/4-96%)
- EOT D3 score has a similar outcome to D1-2
- A large proportion of D4 PET-pos cases have a favourable outcome with 87% receiving RT, and maintain excellent OS (5y OS 94%); further study is needed to evaluate frequency of false positives
- Outcomes in those with EOT D5 PET scan are inferior, and define a group that may benefit from an alternate treatment approach

REFERENCES

1 **Gallamini et al**. Early Chemotherapy Intensification With Escalated BEACOPP in Patients With Advanced-Stage Hodgkin Lymphoma With a Positive Interim Positron Emission Tomography/Computed Tomography Scan After Two ABVD Cycles: Long-Term Results of the GITIL/FIL HD 0607 Trial. *J Clin Oncol 2018; 36(5):454-462.*