Impact of re-assessment imaging modality on clinical outcome in Hodgkin lymphoma in a resource constrained setting

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BACKGROUND

Hodgkin lymphoma is one of the most imminently treatable haematological malignancies. In the Western world, long-term remission rates for many malignancies have improved significantly with current risk-stratification and risk-based treatment, but the developing world struggles to keep pace with implementation of recent recommendations because of the financial implications on a large-scale¹.

PET scan for reassessment of disease at completion of therapy is recommended in Hodgkin Lymphoma² but adds prohibitively to the over-all cost of therapy.

OBJECTIVE

To analyse the impact that re-assessment imaging modality has on relapse rates in patients who are treated for Hodgkin lymphoma.

METHODS

This is a retrospective analysis of all patients who were diagnosed to have Hodgkin Lymphoma between 2011-2015 at a Tertiary care center in South India.

Demographic details at diagnosis and clinical status at last follow-up were collected via chart review and from the hospital information system.

Data on imaging modality used for disease re-assessment was collected separately, blind to the status of relapse/remission.

The event-defining parameter was relapse or death

321 patients diagnosed to have HD
2011-2015

N=53

8 (2.4%) - Died during chemotherapy
7 (2.1%) - Progressive disease
3 (0.9%) - Left prior to re-assessment
30 (9.3%) - Started therapy but went back to their home states to complete chemo - no further follow-up.
5 (1.5%) - Chemo other than ABVD

N=268

6 Cycles of ABVD +/- IFRT

N=185

N=83

Re-assessment with
PET/CT

Re-assessment with USG
and/ or clinical examination

Table 1: Baseline characteristics between the cohort who had CT/PET vs USG as re-assessment

	CT/PET (n=185) (n/Mean (%/SD))	USG (n=83) (n/Mean (%/SD))	P value
Age	30.5 (14.1)	31.9 (15.6)	0.471
Male Sex	113 (61.1%)	63 (75.9%)	0.018
Stage III/IV	102 (64.1%)	44 (61.1%)	0.650
Bulk disease	15 (8.1%)	6 (7.2%)	0.804
Hasenclever index	3.3 (1.5)	4.1 (0.6)	0.180
IFRT	47 (25.4%)	6 (7.7%)	0.0005

Median time to relapse : 14 months (Range 4-93)

Median follow-up : 36 months (Range 2-93)

Figure 1A: Relapse-free survival in patients who had CT/PET vs USG

Figure 2: Relapse-free survival in patients who had early stage vs late stage disease

Table 2: Factors affecting relapse

	Odds ratio (CI)	P value
Age	0.99 (0.98 - 1.01)	0.763
Male Sex	0.92 (0.56 - 1.67)	0.974
Stage III/IV	3.10 (1.45 - 6.64)	0.004
Bulk disease	1.07 (0.39 - 2.91)	0.889
CT/PET assessment	1.32 (0.74- 2.34)	0.352

Figure 1B: Relapse-free survival in early stage disease

Figure 1C: Relapse-free survival in late stage disease

CONCLUSION

This analysis did not show a significant difference in relapse rates between those who had a PET/CT and those who had clinical assessment/USG for disease re-assessment.

The use of available resources for better risk-stratification and optimal chemotherapy rather than disease re-assessment may be acceptable in resource constrained settings.

Limitations:

- Retrospective nature of the study
- Staging of disease was suboptimal in some cases

References

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