

P124**CLINICAL SIGNIFICANCE OF POST-ABVD PET/CT FINDINGS IN HODGKIN'S LYMPHOMA (HL)**

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Introduction. Approximately 30% of patients (pts) with HL fail primary ABVD chemotherapy (CHT) or relapse after an initial remission. Furthermore many pts have residual masses, but do not progress in the long-term. PET scan is a new functional imaging technique, which can detect the presence of viable tumor post treatment. Mid-CHT and post treatment PET results appear to highly affect prognosis. The predictive value of post-CHT PET findings in patients scheduled to receive additional RT is not clearly established.

Methods. Between Dec 2004 and Dec 2006, 106 pts were treated with 4-8 ABVD cycles, representing the total HL pt population in our Unit: 60 underwent PET/CT after the end of ABVD, 35 were not evaluated with PET/CT (mainly due to cost issues), one died early and 10 experienced early disease progression detected by conventional methods prior to PET/CT. All 60 pts who underwent PET/CT had achieved CR/CRu or PR with ABVD. We retrospectively analyzed PET/CT findings after the end of ABVD and their impact on the risk of subsequent progression.

Results. The median age of the 60 pts was 27.5 years (18-78), 62% were males, 97% had classical HL and 58% had clinical stages (CS) I/II. PET/CT was negative in 39/60 pts (65%) and positive in 21 (35%), including 2 patients with indeterminate results (positivity exclusively detected in atypical, unexpected, not previously involved sites). All PET (-) pts remained progression free for a median of 9 months (1-23) from the end of ABVD: 30/39 pts, all CS I/II, received RT at a median dose of 2935 cGy, while the 9 CS III/IV pts did not receive RT. Among 21 PET(+) pts, 17 received RT at a median dose of 3650 cGy, 2 were simply followed without further treatment, 1 progressed rapidly and 1 declined RT. After a median follow-up of 9.4 months (2-23), 5/21 pts experienced disease progression. The 12- and 18- month progression free survival was 100% for PET⁻ and 74% and 59% for PET⁺ pts ($p=0.003$). For CS I/II pts these figures were 74% and 49% ($p=0.008$), while for CSIII/IV 75% ($p=0.13$).

Discussion. A negative PET/CT result after ABVD was associated with excellent short term outcome. Pts with positive PET/CT were in increased risk of progression, but most of them had not progressed at the time of the analysis. Longer follow-up is needed to accurately assess the positive predictive value of PET/CT after ABVD and the potential modulatory effect of subsequent RT. More mature follow-up data will be presented at the Meeting.

P125**PROGNOSTIC VALUE OF FDG-PET IN HODGKIN LYMPHOMA FOR POSTTREATMENT EVALUATION. LONG TERM FOLLOW-UP RESULTS**

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Background. Approximately two-thirds of Hodgkin lymphoma (HL) patients have a residual mass on CT scan after completion of first line therapy. The assessment of these masses is one of the greatest dilemma of physicians dealing with lymphoma, because only about 20-30% relapse. 18-FDG-PET is a useful method to distinguish malignant residual disease from benign tissue (necrosis or fibrosis).

Patients and methods. FDG-PET was performed between November 1995 and November 2005 in 168 patients, who had residual masses on their posttreatment CT scans after the first-line treatment. PET results was evaluated using clinical follow-up data or pathological examinations. Seven patients were lost to follow-up. The sensitivity of the FDG-PET was 79%, specificity 87%, the positive predictive value 55% and the negative predictive value 95%.

Conclusions. FDG-PET is a useful method in the posttreatment evaluation

of HL patients with high sensitivity, specificity and negative predictive value, clearly showing the ability of FDG-PET to identify patients cured with the first-line treatment. Positive results must be carefully analysed, false positive rates are high, probably decrease with using PET/CT scans and with increasing experience. In PET positive cases other confirmation of disease persistence should be done before further treatment is indicated.

P126**UTILITY OF PET- CT IN STAGING AND EARLY RESPONSE ASSESSMENT IN ADOLESCENT PATIENTS WITH CLASSICAL HODGKIN'S LYMPHOMA (CHL) - A SINGLE CENTRE EXPERIENCE**

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Aim of the study. To examine the accuracy of ¹⁸F-FDG PET-CT compared with conventional imaging modalities (CIM: CT/MRI/US) in staging adolescents with CHL and its role in assessment of early response to chemotherapy. Can PET-CT identify patients in whom radiotherapy can be avoided based on response to chemotherapy?

Patients and methods. The records of 24 adolescents with CHL diagnosed between April 2005 and Dec 2006 were reviewed retrospectively. Age range at diagnosis 12-18 yrs, median age 15 yrs 11months, 11 males and 13 females. All patients had disease assessed by FDG PET-CT and CIM at diagnosis and after 2 cycles of OEPA chemotherapy (OEPA - Oncovin, Etoposide, Prednisolone, Adriamycin). Patients were risk stratified based on stage into three treatment groups TG1, 2 and 3 receiving 2 OEPA, 2 OEPA plus 2 COPP and 2 OEPA plus 4 COPP respectively. Results of staging and early response assessment were reported independently by radiology for CIM and nuclear medicine for PET-CT. Patients who had a good early response (CR or PR and PET negative) after 2 OEPA did not receive radiotherapy. All other patients had involved field radiotherapy.

Results at initial staging.

Table 1.

Stage	I	II	III	IV
By PET-CT	0	12	7	5
By CIM	0	12	7	5

There was 100% concordance in staging and treatment group allocation between PET CT and CIM.

Results at early response assessment. 11/24 patients were PET-CT Negative: of these all 11 had residual disease on CIM.

Table 2.

Treatment group	TG1	TG2	TG3
Number of patients	6	9	9
Number PET negative post 2 OEPA	3 (50%)	5 (57%)	3 (33%)

12 / 24 patients were PET-CT Positive: of these all 12 had residual disease on CIM - 11 had partial response and 1 had disease progression. 1 patient had equivocal PET result treated as PET positive.

Current Clinical Status. All but 1 patient is currently in clinical remission with a maximum follow up 20 months (range 1-20 months). 22 of 24 are more than 6 months off treatment.

Discussion. This study shows that PET-CT is 100% concordant in allocation of stage and treatment group compared with CIM in adolescents with HL. The results of early response assessment showed 11/24 patients had a negative PET-CT and all 11 avoided radiotherapy. In contrast all 24 had residual disease on CIM at this stage which demonstrates the limitations of CIM for response assessment in CHL. Although follow up is short there has only been 1 treatment failure. PET-CT shows huge promise in identifying adolescent patients who may avoid radiotherapy without compromising treatment success.