

# "SIGNIFICANCE AND DIAGNOSTIC PERFORMANCE OF FDG PET-CT IMAGING FOR RESPONSE EVALUATION POST CHEMOTHERAPY AND ASSESSMENT OF BONE MARROW INVOLVEMENT IN PEDIATRIC HODGKIN LYMPHOMA PATIENTS"

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## AIMS AND OBJECTIVE:-

The aim of the study was to evaluate the significance and use of PET-CT scan for post chemotherapy response evaluation and for assessment of bone marrow infiltration in pediatric Hodgkin lymphoma patients.

## METHOD:-

This retrospective study included 44 pediatric patients from May, 2017 to Dec 2020 diagnosed case of Hodgkin lymphoma referred to PET-CT scan department at Jinnah postgraduate Medical Centre for staging, for response evaluation of post chemo therapy and for follow up. Patients were included after considering the inclusion and exclusion criteria. Out of 44 pediatric patients 32 were male and 12 were female with mean age 9.9 and age range were from 1 years to 18 years.(Figure-1)  
Data information were extracted from the medical record of the patients.

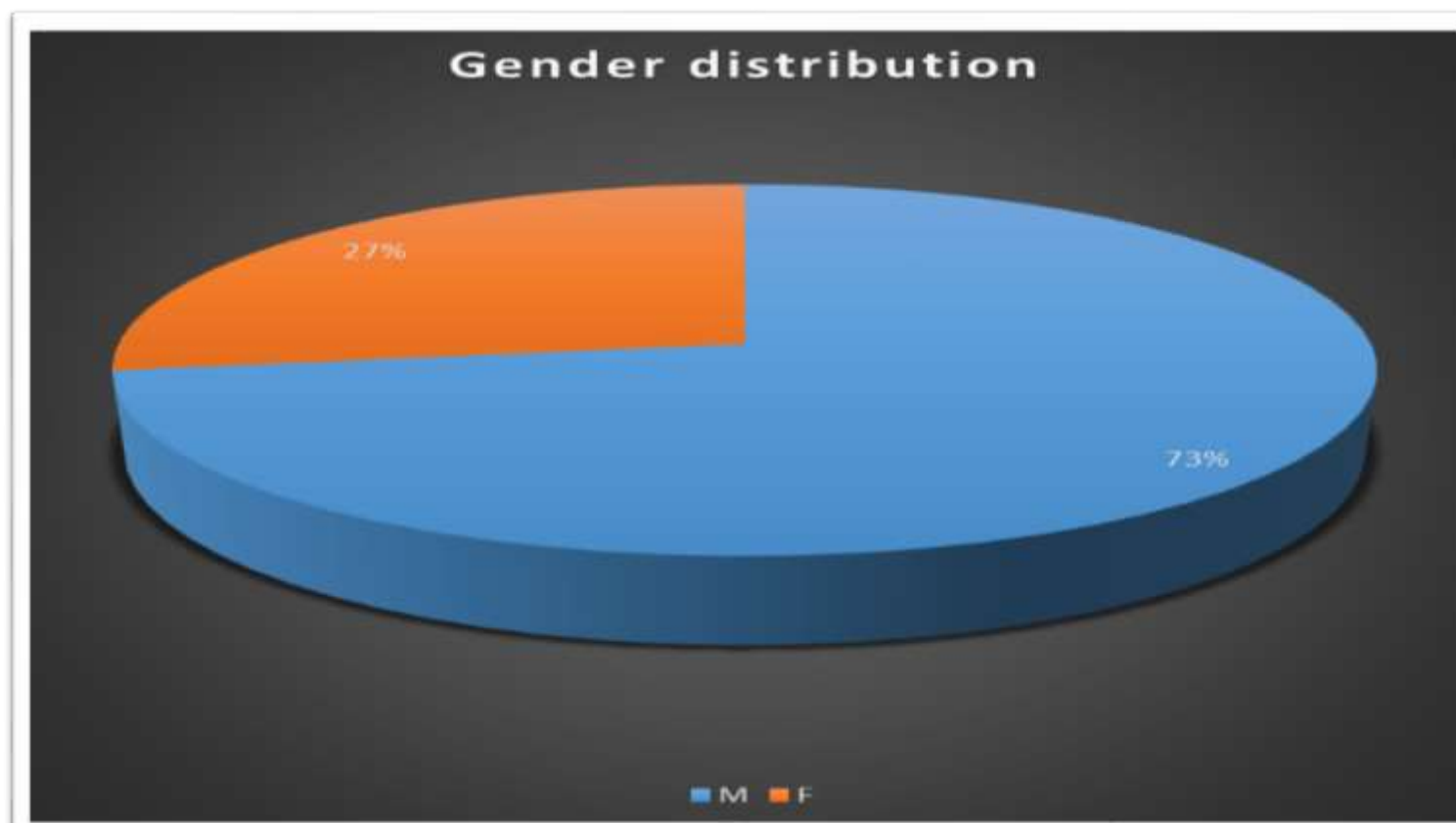


FIGURE-1: - GENDER DISTRIBUTION.

## RESULTS:-

There were total 44 pediatric patients analyzed for post chemotherapy response evaluation and for pretreatment bone marrow involvement followed by chemotherapy and their response of the treatment. Out of 44 pediatric patients post chemotherapy response evaluation on PET-CT scan 24 patients were shown metabolically complete response, 9 were partially response, 2 were shown stable disease no, 7 were shown progression of disease while 2 were shown residual disease .(Figure-2)

On pretreatment scan out of 44 patients, bone marrow involvement were seen in 10 patients and there were 7 patients response completely, 1 was response partially while 2 were shown progression of disease (Figure-3). These patients are further categorized on the basis of staging and chemotherapy regimen in which response of chemotherapy were analyzed which is given in (Table1). According to the table overall 44 patients 27 were of stage III and out of this 12 patients were shown complete response, 7 were shown partial response, 2 were stable disease and 6 were shown progression of disease. Besides this commonly used chemotherapy regimen was ABVD out of 44 there were 35 patients received ABVD as a chemotherapy regimen and 17 patients were response completely, 9 were partially, 2 were of stable disease 5 were of progression disease while 2 were shown residual of disease.

TABLE- 1:- RESPONSE ON THE BASIS OF STAGING AND CHEMOTHERAPY REGIMEN.

Staging	No of patients	CR	PR	SD	PD	Residual/Recurrence
Stage II	8	5	2	0	0	1
Stage III	27	12	7	2	6	0
Stage IV	9	7	0	0	1	1
Chemotherapy Regimen	No of patient	CR	PR	SD	PD	Residual/Recurrence
ABVD	35	17	9	2	5	2
CHOP	2	1	0	0	1	0
CHOP+ABVD	2	2	0	0	0	0
ABVD+ESHAP	1	1	0	0	0	0
ABVD+DHAP	1	1	0	0	0	0
ABVE	1	0	0	0	1	0
COPD+ABVD	1	1	0	0	0	0
CVPD+ABVD	1	1	0	0	0	0

## CONCLUSION:-

PET-CT is a reliable diagnostic tool and play an important role in response evaluation post chemotherapy and for findings of bone marrow involvement. However, now a days PET-CT imaging is helpful in response evaluation, staging and bone marrow involvement of patient which is beneficial for pediatric patients for management.

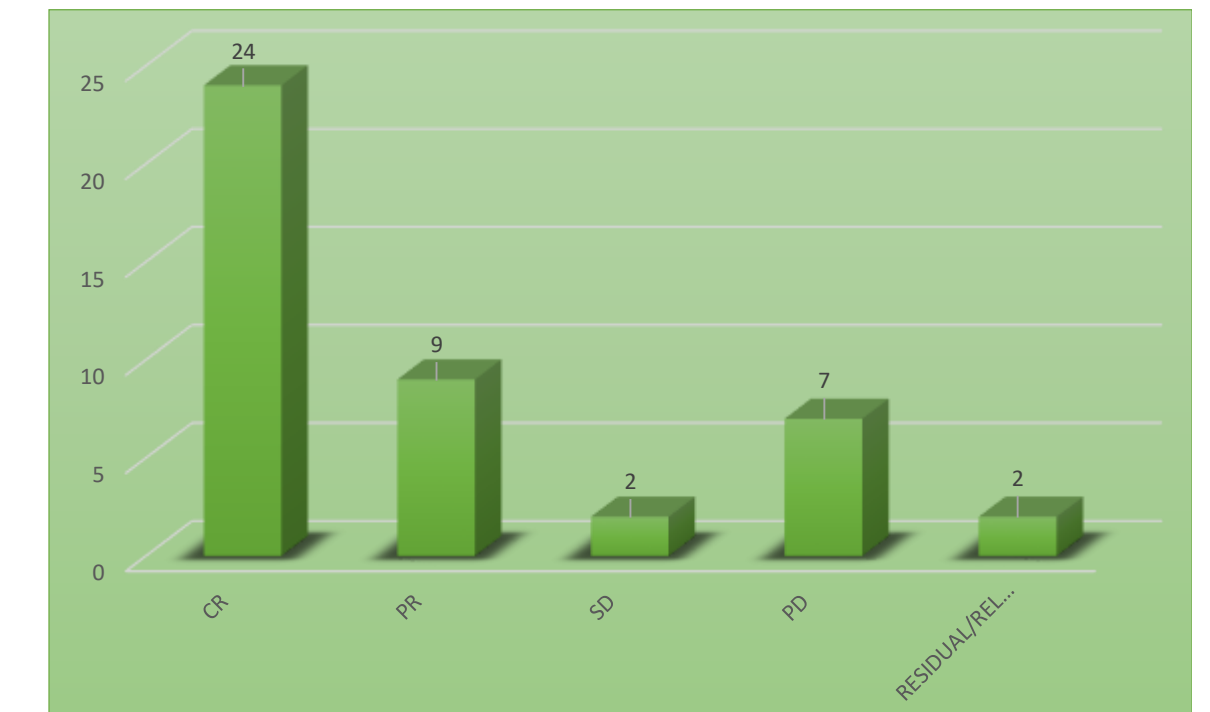


FIGURE -2:-TOTAL FREQUENCY OF CHEMOTHERAPY RESPONSE.

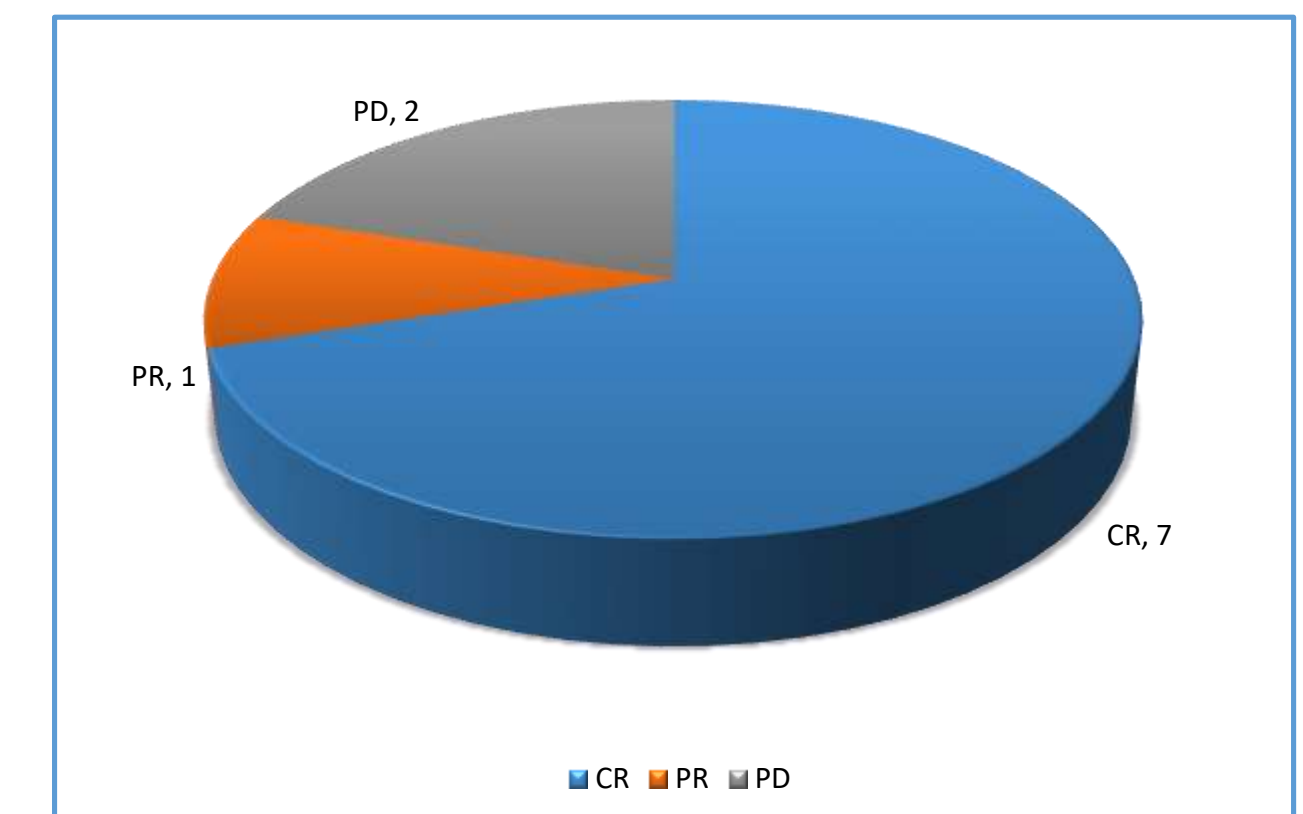


FIGURE 3:-BONE MARROW INVOLVEMENT AND THEIR POST TREATMENT RESPONSE.