

Impact of Number of Cells Harboring Deletion 5q Abnormality by Conventional Cytogenetics in Isolated Deletion 5q Myelodysplastic Syndromes

Najla Al Ali MS, David Sallman MD, Eric Padron MD, Onyee Chan MD, Andrew Kuykendall MD, Kendra Sweet MD, Jeffrey Lancet MD, Rami Komrokji MD

Department of Malignant Hematology, H. Lee Moffitt Cancer Center, Tampa, FL, USA

H. LEE MOFFITT CANCER CENTER & RESEARCH INSTITUTE,
AN NCI COMPREHENSIVE CANCER CENTER – Tampa, FL
1-888-MOFFITT (1-888-663-3488) www.MOFFITT.org

© 2010 H. Lee Moffitt Cancer Center and Research Institute, Inc.

Background

- Isolated del 5q myelodysplastic syndrome (MDS) is defined as presence of del 5q +/- one additional chromosomal abnormality without excess myeloblasts.
- Lenalidomide (len) is current standard of care for those patients.
- The impact of percentage of cells (number of metaphases) harboring del 5q by karyotype is not known.

Material & Methods

- We examined our cohort of isolated del 5q MDS patients at Moffitt Cancer Center.
- We assessed baseline characteristics, response to len, and outcomes based on % of cells/metaphases harboring del 5q using G-banding “conventional cytogenetics clone size.”
- We divided patients into 2 groups based on number of cells harboring del 5q, those with <50% i.e. less than 10 out 20 metaphases and 50-100% (10 or more out of 20 metaphases).

Results

- We identified 142 isolated del 5q MDS patients.
- Baseline characteristics of the whole cohort were similar to what has been previously described in the literature.
- Patients with >50% metaphases harboring del 5q had more severe anemia (Hgb < 8.0 g/dl) (30% versus 13%) (p=0.05).
- Among patients who were treated with len (n=100), 50% achieved a response.
- There was a trend for higher response rate among patients with >50% del 5q metaphases with (42/80) 53% response rate compared to (8/20) 40% among those with <50%. (p=0.32).
- There was no difference in presence of *TP53* somatic mutation based on % of metaphases harboring del 5q.
- There was a non-statistically significant trend for better overall survival among patients with >50% cells with detected del 5q compared to those with <50%, median OS 72 mo versus 66 mo, p=0.90.

Conclusion

- The number of cells harboring del 5q among isolated del 5q MDS patients using regular karyotyping “clone size by conventional cytogenetics” correlated with severity of anemia, trend for better response to len and trend for better overall survival.
- Those findings should be further confirmed in larger cohort of patients.

Table 1 Baseline characteristics of Isolated del(5q) clone size Cohort

n	142	
Age	Mean	69.1 years
Gender	Male	31.7%
Race	White	91%
R-IPSS		
Very low		23%
Low		64%
Intermediate		16%
High		1%
Very High		1%
Myoblasts%	Mean	2%
HgB	Mean	9.4
WBC	Mean	4.7
ANC	Mean	2.47
Platelets	Mean	250
AML transformation	Yes	13%
Clone Size		
<50%		32%
≥50%		68%
Lenalidomide		
Yes		71%
No		29%
Somatic Mutations		
SF3B1		14%
TET2		16%
DNMT3A		11%
TP53		26%

Figure 1 Overall survival based on del5q clone size

