THE USEFULNESS OF QUANTITATIVE ASSESMENT OF WILMS' TUMOR GENE 1 (WT1) EXPRESSION BY REAL-TIME PCR DURING MINIMAL RESIDUAL DISEASE MONITORING OF ACUTE MYELOID LEUKEMIA

Thesis

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Key words

WT1, AML, MRD

ABSTRACT

WT1 is a reliable marker for minimal residual disease assessment in acute leukemia patients. This study was designed to demonstrate the potential use of WT1 to establish quality of remission in acute leukemia patients for early identification of patients at high risk of relapse. This study based on a quantitative Real–Time PCR (TaqMan) assay in 86 bone marrow samples collected from 45 acute myeloid leukemia patients at diagnosis and during follow-up was established. The evaluation of WT1 in bone marrow samples after induction chemotherapy can distinguish the continuous complete remission patients from those who obtain only an "apparent" complete remission and who could relapse within a few months. WT1 helps identify patients at high risk of relapse soon after induction chemotherapy allowing post-induction therapy in high risk patients to be intensified.

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List of Abbreviations

AML	***Acute myelogenous leukemia***
APL	***Acute promyelocytic leukemia***
ATRA	***All-trans-retinoic acid***
BASP1	***Brain acid-soluble protein 1***
CBF	***Core binding factor***
CG	***Control Gene***
CML	***Chronic myeloid leukemia***
CMV	***Cytomegalovirus***
CN	***copy number***
CR	***Complete remission***
Ct	***Cycle threshold***
DIC	***disseminated intravascular coagulopathy***

DLI	***Donor leukocyte infusion***
EGIL	***European group for the immunological classification of leukemia (EGIL)***
EGFR	***Epidermal growth factor receptor***
EGR	***Early growth response***
EoL	***Acute eosinophilic leukemia***
FAB	***French-American-British classification***
FACS	***florescence-activated cell sorter***
FISH	***-fluorescence in situ hybridization***
FIST/HIPK3	***-Fas-interacting serine/ threonine kinase***
FLT3	***-FMS-like tyrosine-3***
FLT3-ITD	***-FMS-like tyrosine-3 internal tandem duplications***
FLT3-LM	***FLT3-gene- length mutations***
GVL	***Graft-versus-leukemia***