♣Measure #67: Myelodysplastic Syndrome (MDS) and Acute Leukemias: Baseline Cytogenetic Testing Performed on Bone Marrow

DESCRIPTION:
Percentage of patients aged 18 years and older with a diagnosis of MDS or an acute leukemia who had baseline cytogenetic testing performed on bone marrow

INSTRUCTIONS:
This measure is to be reported a minimum of once per reporting period for patients seen during the reporting period, regardless of when the baseline testing is performed. It is anticipated that clinicians who provide services for patients with the diagnosis of myelodysplastic syndromes or an acute leukemia (not in remission) will submit this measure.

This measure is reported using CPT Category II codes:
ICD-9 diagnosis codes, CPT E/M service codes, and patient demographics (age, gender, etc.) are used to identify patients who are included in the measure's denominator. CPT Category II codes are used to report the numerator of the measure.

When reporting the measure, submit the listed ICD-9 diagnosis codes, CPT E/M service codes, and the appropriate CPT Category II code OR the CPT Category II code with the modifier. The modifiers allowed for this measure are: 1P- medical reasons, 2P- patient reasons, 3P- system reasons, 8P- reasons not otherwise specified.

NUMERATOR:
Patients who had baseline cytogenetic testing performed on bone marrow

Definition: Baseline cytogenetic testing refers to testing that is performed at time of diagnosis or prior to initiating treatment (transfusion, growth factors, or antineoplastic therapy) for that diagnosis

Numerator Coding:
Baseline Cytogenetic Testing Performed
CPT II 3155F: Cytogenetic testing performed on bone marrow at time of diagnosis or prior to initiating treatment

OR

Baseline Cytogenetic Testing not Performed for Medical, Patient, or System Reasons

Append a modifier (1P, 2P, or 3P) to CPT Category II code 3155F to report documented circumstances that appropriately exclude patients from the denominator.

- 1P: Documentation of medical reason(s) for not performing baseline cytogenetic testing on bone marrow (e.g., no liquid bone marrow or fibrotic marrow)
- 2P: Documentation of patient reason(s) for not performing baseline cytogenetic testing on bone marrow (e.g., at time of diagnosis receiving palliative care or not receiving treatment as defined above)
- 3P: Documentation of system reason(s) for not performing baseline cytogenetic testing on bone marrow (e.g., patient previously treated by another physician at the time cytogenetic testing performed)

OR

Baseline Cytogenetic Testing not Performed, Reason not Specified

Append a reporting modifier (8P) to CPT Category II code 3155F to report circumstances when the action described in the numerator is not performed and the reason is not otherwise specified.

- 8P: Cytogenetic testing not performed on bone marrow at time of diagnosis or prior to initiating treatment, reason not otherwise specified

DENOMINATOR:

All patients aged 18 years and older with a diagnosis of MDS or an acute leukemia

Denominator Coding:

An ICD-9 diagnosis code for Myelodysplastic Syndrome (MDS) or acute leukemias (not in remission) and a CPT E/M service code are required to identify patients for denominator inclusion.

ICD-9 diagnosis codes: 204.00, 205.00, 206.00, 207.00, 207.20, 208.00, 238.72, 238.73, 238.74, 238.75

AND

CPT E/M service codes: 99201, 99202, 99203, 99204, 99205, 99212, 99213, 99214, 99215, 99241, 99242, 99243, 99244, 99245

RATIONALE:

For MDS:

Cytogenetic testing is an integral component in calculating the International Prognostic Scoring System (IPSS) score. Cytogenetic testing should be performed on the bone marrow of patients with MDS in order to guide treatment options, determine prognosis, and predict the likelihood of disease evolution to leukemia.

For acute leukemias:

In addition to establishing the type of acute leukemia, cytogenetic testing is essential to detect chromosomal abnormalities that have diagnostic, prognostic, and therapeutic significance.

CLINICAL RECOMMENDATION STATEMENTS:

For MDS:

Bone marrow aspiration and biopsy are needed to calculate the degree of hematopoietic cell maturation abnormalities and relative proportions, percentage of marrow blasts, marrow cellularity, presence or absence of ringed sideroblasts (and presence of iron per se), and fibrosis. Marrow cytogenetics should be obtained because they are of major importance for prognosis (Category 2A Recommendation). (NCCN)

The decision to treat patients having marrow blasts in the range of 20% to 30% with intensive AML therapy is thus complex and should be individualized. The clinician should consider such factors as age, antecedent factors, cytogenetics, comorbidities, pace of disease, and performance status (Category 2A Recommendation). (NCCN)

A chromosome abnormality confirms the presence of a clonal disorder aiding the distinction between MDS and reactive causes of dysplasia, and in addition has major prognostic value. Cytogenetic analysis should therefore be performed for all patients in whom a bone marrow examination is indicated. (BCSH)

For acute leukemias:

The initial evaluation has two objectives. The first is to identify the pathology causing the disease including factors such as prior toxic exposure or myelodysplasia, cytogenetics and molecular markers that may have an impact on chemoresponsiveness and propensity for relapse which may guide choice of treatment. The second objective focuses on patient-specific factors including comorbid conditions that may affect an individual's ability to tolerate chemotherapy (Category 2A Recommendation). (NCCN)

Although cytogenetic information is usually unknown when treatment is initiated in patients with de novo AML, karyotype represents the single most important prognostic factor for predicting remission rate, relapse, and overall survival. Therefore, the importance of obtaining sufficient samples of marrow or peripheral blood blasts at diagnosis for this analysis cannot be overemphasized (Category 2A Recommendation). (NCCN)