Implementing a Quality Intervention for Patients With Myelofibrosis (MF)

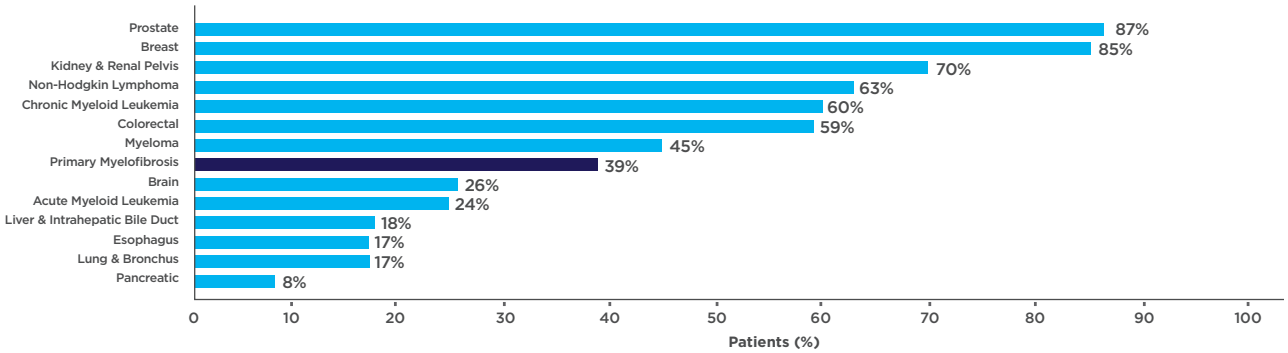
A GUIDE FOR PHARMACY DIRECTORS AND CLINICAL PHARMACISTS

Help your clinicians evaluate risk in patients with MF and understand care guidelines

Myelofibrosis (MF) is a serious hematologic malignancy

MF is a Philadelphia chromosome-negative myeloproliferative neoplasm (MPN) marked by bone marrow fibrosis, abnormal blood counts, extramedullary hematopoiesis, a significant symptom burden, and shortened survival.[1]

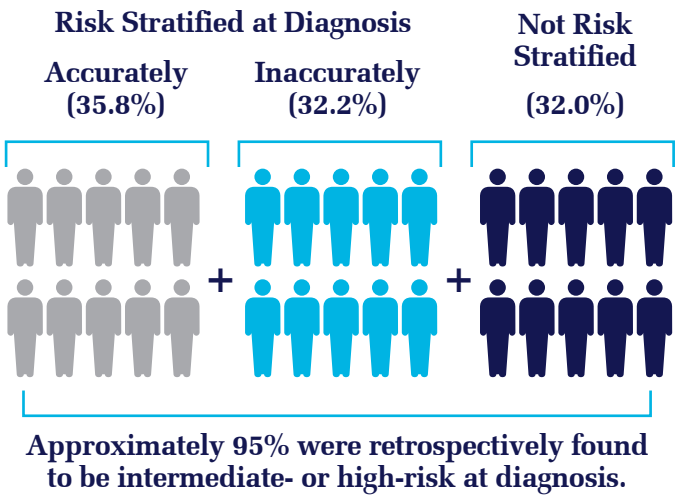
CANCER 5-YEAR OVERALL SURVIVAL RATES[2,a]



[a]5-year overall survival rates were estimated using Surveillance, Epidemiology, and End Results (SEER) data obtained from population-based cancer registries of the US population and SEER*Stat Software version 8.3.2. The analysis included patients with initial/primary site diagnosis between years 2007-2011. Overall survival is defined as the proportion of patients surviving at the specified time interval after diagnosis.[2,3]

Risk stratification is recommended, but often not performed or inaccurate

According to the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for Myeloproliferative Neoplasms, risk stratification should be performed in all patients with MF at diagnosis and during treatment.[4]



In a retrospective chart review of patients with MF treated at community hematology/oncology practices[5,a]:

- Most patients (64.2%) were either not risk stratified or inaccurately risk stratified at diagnosis
- Of the patients who were inaccurately risk-stratified, risk was underestimated in most cases (82.6%)
- Patients who were correctly risk classified at diagnosis were more likely to start treatment compared to those incorrectly classified (64.2% vs 49.5%)

[a]Retrospective chart review of 338 patients diagnosed with primary MF, post-polycythemia vera MF, or post-essential thrombocythemia MF between 1/2012 and 12/2016 from 28 community hematology/oncology practices in the OPEN network who were receiving care for at least 6 months, sponsored by Incyte. Data collected included clinical characteristics, risk assessment method used at diagnosis, treatments, and outcomes. A data-derived International Prognostic Scoring System (IPSS) risk score was calculated for each patient.

In a separate study of patients with primary MF, approximately 90% (375/428) of evaluable patients were considered to be intermediate or high risk within 1 year of diagnosis.[6]

The presence of just one risk factor indicates intermediate-risk MF

Eight prognostic risk factors have been identified as independent predictors of shortened survival.[6-8]

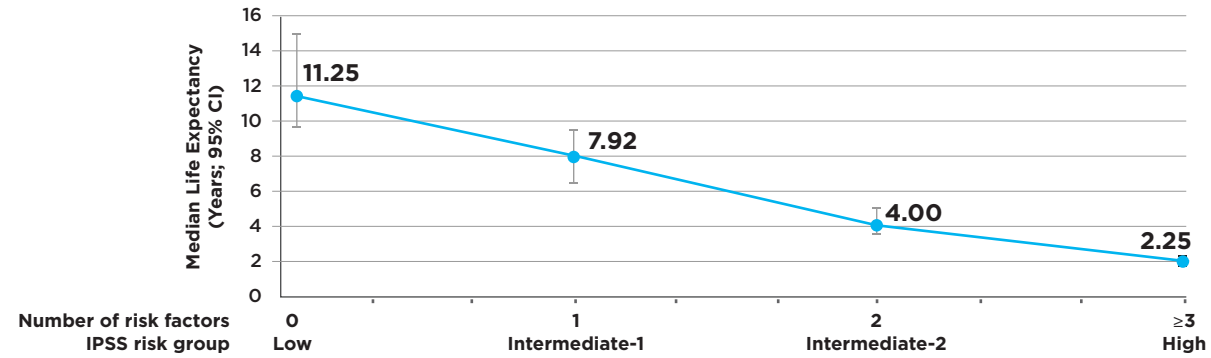
The presence of ***any one*** of these risk factors indicates the patient has intermediate-risk MF.

Risk Factors:

1. Age >65 years
2. Circulating blast cells ≥1%
3. Constitutional symptoms (weight loss >10% of baseline in the year preceding diagnosis and/or unexplained fever or excessive sweats persisting for more than 1 month)
4. Hemoglobin level <10 g/dL
5. Leukocyte count >25 × 10^9/L
6. Platelet count <100 × 10^9/L
7. Red cell transfusion dependency
8. Unfavorable karyotype (complex karyotype or single or 2 abnormalities including +8, –7/7q-, i(17q), –5/5q-, 12p-, inv(3) or 11q23 rearrangement)

Median life expectancy decreases as the number of risk factors increases

MEDIAN LIFE EXPECTANCY BASED ON NUMBER OF RISK FACTORS PRESENT AT DIAGNOSIS[7,a]



CI, confidence interval; IPSS, International Prognostic Scoring System.

[a] IPSS risk factors were used in this analysis — circulating blast cells ≥1%, hemoglobin level <10 g/dL, leukocyte count >25 × 10^9/L, age >65 years, and constitutional symptoms.

References: **1.** Vannucchi AM, Guglielmelli P, Tefferi A. Advances in understanding and management of myeloproliferative neoplasms. *CA Cancer J Clin.* 2009;59:171-191. **2.** Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) SEER*Stat Database: Incidence - SEER 18 Regs Research Data + Hurricane Katrina Impacted Louisiana Cases, November 2015 Submission (1973-2013 varying) - Linked To County Attributes - Total U.S., 1969-2014 Counties. Accessed January 4, 2017. **3.** Howlader N, Noone AM, Krapcho M, et al, eds. SEER Cancer Statistics Review, 1975-2012, National Cancer Institute. Bethesda, MD. http://seer.cancer.gov/csr/1975_2012/, based on November 2014 SEER data submission, posted to the SEER web site, April 2015. Accessed January 4, 2017. **4.** Referenced with permission from the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for Myeloproliferative Neoplasms V.2.2019. © National Comprehensive Cancer Network, Inc 2018. All rights reserved. Accessed November 14, 2018. To view the most recent and complete version of the guideline, go online to NCCN.org. NCCN makes no warranties of any kind whatsoever regarding their content, use or application and disclaims any responsibility for their application or use in any way. **5.** Verstovsek S, Yu J, Kish JK, et al. Real-world risk assessment and treatment of patients with myelofibrosis at community oncology practices in the United States. Presented at: American Society of Hematology 60th Annual Meeting; December 1-4, 2018; San Diego, CA. Abstract 115294. **6.** Gangat N, Caramazza D, Vaidya R, et al. DIPSS plus: A refined Dynamic International Prognostic Scoring System for primary myelofibrosis that incorporates prognostic information from karyotype, platelet count, and transfusion status. *J Clin Oncol.* 2011;29(4):392-397. **7.** Cervantes F, Dupriez B, Pereira A, et al. New prognostic scoring system for primary myelofibrosis based on a study of the International Working Group for Myelofibrosis Research and Treatment. *Blood.* 2009;113(13):2895-2901. **8.** Passamonti F, Cervantes F, Vannucchi AM, et al. A dynamic prognostic model to predict survival in primary myelofibrosis: a study by the IWG-MRT (International Working Group for Myeloproliferative Neoplasms Research and Treatment). *Blood.* 2010;115(9):1703-1708.

Actively monitor and assess risk factors in patients with MF

Proactively identify risk in patients with MF

- Primary MF is a serious hematologic malignancy with a 5-year overall survival rate of 39%[1-3]
- According to NCCN Guidelines®, risk stratification should be performed in all patients with MF at diagnosis and during treatment[4]
- Many patients (64.2%) are inaccurately assessed for risk at diagnosis, or not risk assessed at all[5]
- The presence of ***any one*** risk factor, such as age >65 years, indicates the patient has intermediate-risk MF[6-8]
- Median life expectancy varies by risk stratification and decreases as the number of risk factors increases[7]

Use your EHR system to identify risk in patients with MF

Help your clinicians recognize the risk profile of their patients with MF by using patient lists generated through your electronic health record (EHR) system. Clinical criteria such as age, blood counts, and symptoms can be used to proactively risk stratify patients with MF.

Create a list of patients with risk stratification for informed clinical assessment and potential quality intervention

1. Select the ***query, report, or list tab*** within your system
2. **Enter ICD-10 Code D75.81** for MF
3. Evaluate for the presence of any risk factors monthly
4. Document the updated risk category within your system for provider consideration

Just one risk factor indicates the patient has intermediate-risk MF

Risk Factors:

1. Age >65 years
2. Circulating blast cells ≥1%
3. Constitutional symptoms
   (Weight loss >10% of baseline in the year preceding diagnosis and/or unexplained fever or excessive sweats persisting for more than 1 month)
4. Hemoglobin level <10 g/dL
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   (Complex karyotype or single or 2 abnormalities including +8, –7/7q-, i(17q), –5/5q-, 12p-, inv(3) or 11q23 rearrangement)

Monitor your EHR system monthly and notify clinicians of patients with new risk profiles as these patients may require a different management approach.

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