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Positive Quality Intervention: Ruxolitinib (Jakafi®) - Managing Myelofibrosis Patients

Description of PQI: Ruxolitinib is a selective JAK2 inhibitor used for the treatment of myelofibrosis (MF). This PQI will review the close monitoring of platelets required to ensure appropriate dose and avoid severe thrombocytopenia due to the therapy.

Background: Ruxolitinib is FDA approved for the treatment of intermediate or high-risk patients with MF. This includes patients with primary MF, post polycythemia vera MF, post-essential thrombocytopenia MF, steroid-refractory acute graft-versus-host disease in adult and pediatric patients 12 years and older, and chronic graft-versus-host disease after failure of one or two lines of systemic therapy in adult and pediatric patients 12 years and older. Ruxolitinib is also indicated in polycythemia vera and graft-versus-host disease.

PQI Process: Pharmacy management of patients' labs to ensure correct dosing of ruxolitinib can contribute to increased efficacy and decreased toxicity of the therapy. When receiving a new prescription for ruxolitinib:

- Review dosing
  - Dosing is based on baseline platelet count; platelet counts must be monitored throughout therapy

Baseline Platelet Count	Ruxolitinib Dose
>200 x 10^9 cells/L	20 mg BID
100 to 200 x 10^9 cells/L	15 mg BID
50 to 99 x 10^9 cells/L	5 mg BID

- Check for drug-drug interactions
- Lab Monitoring
  - CBC/CMP - baseline, every 2-4 weeks until dose is stabilized, then as clinically indicated
  - Lipid panel - Baseline and 8-12 weeks after initiation
- Ensure the patient has follow up labs scheduled appropriately (see lab monitoring section)
  - Add reminders in pharmacy management software or EMR for follow-up on patient's labs every 2-4 weeks until dose is stabilized (usually within 8 weeks)
- Refills will be filled only after:
  - CBC has been checked
  - Platelet count has been evaluated for appropriateness of dose
- Dose Modifications:
  - Do not adjust dose within the first 4 weeks, and no more than every 2 weeks thereafter
  - Dose may be increased by 5 mg BID increments to a max dose of 25 mg BID if:
    - Failure to achieve a reduction from baseline spleen length of 50% or a 35% reduction in spleen volume as measured by CT or MRI
    - Platelet count more than 125 x 10^9 cells/L at treatment week 4 and platelet counts never less than 100 x 10^9 cells/L
    - ANC more than 0.75 x 10^9 cells/L

- Discontinue ruxolitinib if spleen size reduction or symptom improvements not observed after 6 months of therapy
- When discontinuing therapy for any reason other than thrombocytopenia, consider gradually tapering dose by 5 mg twice daily each week

- **Evaluate platelet count and may <u>recommend the following</u> <u>dose adjustments to provider:</u>**

Baseline Platelet Count of 100 x 10(9) cells/L or Higher:[1]

Current Platelet Count	Dose Adjustment
125 x 10^9 cells/L or higher	No dose adjustment
100-124 x 10^9 cells/L	If starting dose was 20 mg BID, decrease dose by 5 mg BID If starting dose was 15 mg BID or less, no adjustment needed
75-99 x 10^9 cells/L	Decrease dose to 10 mg BID If starting dose was 10 mg BID or less, no adjustment needed
50-74 x 10^9 cells/L	Decrease to 5 mg BID If starting dose was 5 mg BID, no adjustment needed
<50 x 10^9 cells/L	Hold; restart when platelets >50 x 10^9 cells/L

Baseline Platelet Count of 50 to 99 x 10^9 cells/L: [1]

Current Platelet Count	Dose Adjustment
25-35 x 10^9 cells/L and platelet decline during prior 4 weeks is less than 20%	Decrease total daily dose by 5 mg For patients on 5 mg once daily prior to decline, continue same dose
25-35 x 10^9 and platelet decline during prior 4 weeks is 20% or higher	Decrease dose to 5 mg BID If dose is 5 mg BID, decrease to 5 mg once daily If dose is 5 mg once daily, continue same dose
<25 x 10^9	Hold therapy; restart when platelets >35 x 10^9 cells/L starting with 5 mg BID less than previous dose

Patient-Centered Activities:

- Provide Oral Chemotherapy Education (OCE) sheet
- Stress importance of adherence
  - The only way to achieve the proper patient-specific dose is if the patient is adherent
- Schedule follow-up calls and laboratory monitoring
  - Educate the patient to the possibility of dose adjustments based on labs
- Monitoring skin at baseline and have the patient make note of any new lesions that arise

References:

1. Jakafi® (ruxolitinib) [package insert].