

Guide for Patients Taking Nonsteroidal Immunosuppressive Drugs

Introduction

Various lung diseases require the use of drugs that change a patient's immunity. Because these medications can be harmful, timely detection of clinically significant side effects may benefit the patients receiving them. The ACCP has produced guidelines to help with the administration of nonsteroidal immunosuppressive drugs to patients with pulmonary disorders. These guidelines can help patients detect adverse consequences from these drugs so that clinically significant side effects can be either avoided or recognized in a timely fashion.

Anti-Tumor Necrosis Factor-alpha (TNF-alpha) Agents

For patients taking adalimumab, etanercept, or infliximab:

- ◆ Check your temperature frequently, and report a fever to your physician immediately.
- ◆ Report to your physician signs of infection, such as cough, aches, fever, or chills; a wound or cut with redness, pain, discharge, or pus; pain; burning with urination; or nausea; vomiting; and diarrhea.
- ◆ Report shortness of breath or other changes in your breathing to your physician.

Calcineurin Inhibitors (CNIs)

- ◆ Notify your physician if you experience adverse events associated with cyclosporin A or tacrolimus: acne, dizziness, headache, increased hair growth, nausea and vomiting, diarrhea, stomach discomfort, numbness, tingling, stomach bleeding, high blood pressure, kidney problems, liver problems, or increased cholesterol levels.

Antilymphocyte Antibodies

For patients taking anti-thymocyte globulin (ATG) antibodies or muromonab antibodies:

- ◆ Notify your physician if you experience fever, low blood pressure, or shortness of breath.

For patients taking rituximab:

- ◆ Notify your physician if you experience abdominal pain, diarrhea, nausea, vomiting, muscle soreness, dizziness, headache, peripheral swelling, fever, or shivering; worsening shortness of breath; rapid or irregular heartbeat; fever, chills, or other signs of infection; or increasing confusion.

IL-2 Receptor Antagonists

For patients taking basiliximab:

- ◆ Check your temperature frequently, and report a fever to your physician immediately.
- ◆ Report to your physician signs of infection, such as cough, aches, fever, or chills; a wound or cut with redness, pain, discharge, or pus; pain; burning with urination; or nausea, vomiting, and diarrhea.
- ◆ Report shortness of breath or other changes in your breathing to your physician.

Cytotoxic Agents

For patients taking azathioprine:

- ◆ Check your temperature frequently, and report a fever to your physician immediately.
- ◆ Report signs of infection to your physician, such as cough, aches, fever, or chills; a wound or cut with redness, pain, discharge, or pus; pain; burning with urination; or nausea, vomiting, and diarrhea.
- ◆ Report shortness of breath or other changes in your breathing to your physician.
- ◆ Report signs of liver or pancreas dysfunction to your physician, such as nausea and vomiting, yellowing of the skin or whites of the eyes, or abdominal pain.

For patients taking cyclophosphamide:

- ◆ Drink plenty of water on the day you take cyclophosphamide. A good goal is to drink eight glasses of water or its equivalent.
- ◆ Check your temperature frequently, and report a fever to your physician immediately.
- ◆ Report to your physician signs of infection, such as cough, aches, fever, or chills; a wound or cut with redness, pain, discharge, or pus; pain; burning with urination; or nausea, vomiting, and diarrhea.
- ◆ Report shortness of breath or other changes in your breathing to your physician.
- ◆ Report any evidence of blood in your urine or pain when urinating to your physician.

For patients taking leflunomide:

- ◆ Check your temperature frequently, and report a fever to your physician immediately.
- ◆ Report to your physician signs of infection, such as cough, aches, fever, and chills; a wound or cut with redness, pain, discharge, or pus; pain; burning with urination; or nausea, vomiting, and diarrhea.
- ◆ Report shortness of breath or other changes in your breathing to your physician.
- ◆ Report any neurologic symptoms (headache, dizziness, numbness, tingling, or weakness) to your physician.

For patients taking methotrexate:

- ◆ Check your temperature frequently, and report a fever to your physician immediately.
- ◆ Report to your physician signs of infection, such as cough, aches, fever, or chills; a wound or cut with redness, pain, discharge, or pus; pain; burning with urination; or nausea, vomiting, and diarrhea.
- ◆ Report shortness of breath or other changes in your breathing to your physician.

For patients taking MPA derivatives:

- ◆ Check your temperature frequently, and report a fever to your physician immediately.
- ◆ Report to your physician signs of infection, such as cough, aches, fever, or chills; a wound or cut with redness, pain, discharge, or pus; pain; burning with urination; or nausea, vomiting, and diarrhea.
- ◆ Report shortness of breath or other changes in your breathing to your physician.
- ◆ Report any neurologic symptoms (headache, dizziness, numbness, tingling, or weakness) to your physician.

Mammalian Target of Rapamycin (mTOR) Inhibitors

- ◆ Notify your physician if you experience adverse events associated with everolimus: anemia, high blood pressure, increased cholesterol and triglyceride levels, liver problems, nausea, vomiting, diarrhea, abdominal pain, headache, or dizziness.
- ◆ Notify your physician if you experience adverse events associated with sirolimus : anemia, high blood pressure, fluid retention and edema, joint pain, headache, increased cholesterol levels, liver problems, blood clots, or stomach discomfort.

Other Immunosuppressive Drugs**For patients taking chloroquine and hydroxychloroquine:**

- ◆ Check your temperature frequently, and report a fever to your physician immediately.
- ◆ Report to your physician signs of infection, such as cough, aches, fever, or chills; a wound or cut with redness, pain, discharge, or pus; pain; burning with urination; or nausea, vomiting, and diarrhea.
- ◆ Report any changes in your vision.
- ◆ Report any passing out spells or signs of heart failure, such as unexplained severe leg swelling.

Conclusion

In addition to these guidelines, physicians are encouraged to use other resources (eg, package inserts and regulatory agency guidelines, such as the US Food and Drug Administration [FDA] MedWatch program, Micromedex, and Arthritis Foundation statements and guidelines) to provide important information to achieve maximal patient safety when these medications are prescribed.

Baughman RP, Meyer KC, Nathanson I, et al. Monitoring of nonsteroidal immunosuppressive drugs in patients with lung disease and lung transplant recipients: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines. *Chest*. 2012;142(5):e1S-e111S



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