Mitomycin (Mutamycin, Mitomycin-C, Jelmyto®)

Pronounced: MY-toe-MY-sin

Classification: Antitumor Antibiotic

About Mitomycin (Mutamycin, Mitomycin-C, Jelmyto®)

Mitomycin is an antitumor antibiotic that is made from a soil fungus called Streptomyces caespitosus. Mitomycin inhibits DNA synthesis by producing DNA cross-links which halt cell replication and eventually cause cell death. Since cancer cells, in general, divide faster and with less error-correcting than healthy cells, they are more sensitive to this damage. This cell damage slows or stops the growth of cancer cells in your body.

How to Take Mitomycin

Mitomycin is given by intravenous (IV, into a vein) infusion. The dosage and schedule are determined by the person’s size, type of cancer, and mode of administration.

This medication is also available in a gel formula given directly into a nephrostomy tube or catheter by a provider.

This medication is blue in color and may make your urine blue-green in color. This is expected and can last one or two days after each dose. If you have other urinary symptoms such as frequent or painful urination, call your care team.

Even when carefully and correctly administered by trained personnel, this drug may cause a feeling of burning and pain. There is a risk that this medication may leak out of the vein at the injection site, resulting in tissue damage that can be severe. If the area of injection becomes red, swollen, or painful at any time during or after the injection, notify your care team immediately. Do not apply anything to the site unless instructed by your care team.

Possible Side Effects of Mitomycin

There are a number of things you can do to manage the side effects of mitomycin. Talk to your care team about these recommendations. They can help you decide what will work best for you. These are some of the most common or important side effects:

Infection and Low White Blood Cell Count (Leukopenia or Neutropenia)

This medication can cause life-threatening infections, with or without a decrease in white blood cell counts.

White blood cells (WBC) are important for fighting infection. While receiving treatment, your WBC count can drop, putting you at a higher risk of getting an infection. You should let your doctor or nurse know right away if you have a fever (temperature greater than 100.4 °F or 38 °C), sore throat or cold, shortness of breath, cough, burning with urination, or a sore that doesn't heal.

Tips to preventing infection:

- Washing hands, both yours and your visitors, is the best way to prevent the spread of infection.
- Avoid large crowds and people who are sick (i.e.: those who have a cold, fever, or cough or live with someone with these symptoms).
- When working in your yard, wear protective clothing including long pants and gloves.
- Do not handle pet waste.
- Keep all cuts or scratches clean.
• Shower or bath daily and perform frequent mouth care.
• Do not cut cuticles or ingrown nails. You may wear nail polish, but not fake nails.
• Ask your oncology care team before scheduling dental appointments or procedures.
• Ask your oncology care team before you, or someone you live with has any vaccinations.

**Low Red Blood Cell Count (Anemia)**

Your red blood cells are responsible for carrying oxygen to the tissues in your body. When the red cell count is low, you may feel tired or weak. You should let your oncology care team know if you experience any shortness of breath, difficulty breathing, or pain in your chest. If the count gets too low, you may receive a blood transfusion.

**Low Platelet Count (Thrombocytopenia)**

Platelets help your blood clot, so when the count is low you are at a higher risk of bleeding. Let your oncology care team know if you have any excess bruising or bleeding, including nose bleeds, bleeding gums, or blood in your urine or stool. If the platelet count becomes too low, you may receive a transfusion of platelets.

- Do not use a razor (an electric razor is fine).
- Avoid contact sports and activities that can result in injury or bleeding.
- Do not take aspirin (salicylic acid), non-steroidal, anti-inflammatory medications (NSAIDs) such as Motrin/Advil (ibuprofen), Aleve (naproxen), Celebrex (celecoxib), etc. as these can all increase the risk of bleeding. Please consult with your healthcare team regarding the use of these agents and all over-the-counter medications/supplements while on therapy.
- Do not floss or use toothpicks and use a soft-bristle toothbrush to brush your teeth.

**Hemolytic Uremic Syndrome (HUS)**

This medication can also cause a rare syndrome called hemolytic uremic syndrome (HUS) that destroys red blood cells, damages blood vessels, and can lead to kidney failure. Your healthcare team will monitor you for symptoms of HUS throughout your treatment with mitomycin. Notify your healthcare team if you have unusual bruising or bleeding or notice a decrease in urine output.

**Less common, but important side effects can include:**

- **Lung Changes:** In rare cases, this medication can lead to lung problems. These can develop during treatment or months to years after treatment. Notify your physician right away if you have shortness of breath, a non-productive cough, fever, wheezing, or difficulty breathing.
- **Heart Problems:** Mitomycin can cause or worsen pre-existing heart problems including congestive heart failure, restrictive cardiomyopathy, decreased heart function, and heart attack. Notify your healthcare provider if you have sudden weight gain or swelling in the ankles or legs. If you develop chest pain or pressure, pain in the left arm, back, or jaw, sweating, shortness of breath, clammy skin, nausea, dizziness, or lightheadedness, call 911 or go to the nearest emergency room.

**Reproductive Concerns**

Exposure of an unborn child to this medication could cause birth defects, so you should not become pregnant or father a child while on this medication. Effective birth control is necessary during treatment. Even if your menstrual cycle stops or you believe you are not producing sperm, you could still be fertile and conceive. You should consult with your healthcare team before breastfeeding while receiving this medication.

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