**WHAT IS IT?**

Rituximab (Rituxan and MabThera) is a drug used to treat rheumatoid arthritis, and certain forms of vasculitis, that has not improved with other types of medications. It works by turning off a part of the immune system that is not working properly in autoimmune diseases. Rituximab is used in combination with methotrexate to treat rheumatoid arthritis that has not responded to one or more types of treatment, including TNF inhibitors.

Rituximab also is used to treat certain types of vasculitis (an inflammatory condition affecting blood vessels), such as granulomatosis with polyangiitis or MPA. Occasionally rituximab is used to treat other immune problems, including lupus, and inflammatory muscle diseases. Rituximab also is used in the treatment of some blood disorders, including chronic lymphocytic leukemia and non-Hodgkin's lymphoma.

**HOW TO TAKE IT**

Rituximab is given as an intravenous infusion (IV or "drip") into a vein. The infusion usually takes 2 to 4 hours, although occasionally it can take longer. A course of rituximab for rheumatoid arthritis usually consists of two 1000mg doses given 15 days apart. For other conditions, this regimen may be used or a smaller dose may be given once a week for 4 weeks in a row. The effects of rituximab begin about 6 weeks after the infusions. Usually by the third month, the full effect occurs, and these are not severe. There are a few rare but serious side effects from rituximab. These include severe skin reactions and mouth sores. Patients who experience vision changes, loss of balance, difficulty walking or confusion should contact their doctors immediately. Combining treatment with other biologic drugs, which suppress the immune system (including etanercept [Enbrel], adalimumab [Humira], infliximab [Remicade], certolizumab [Cimzia], golimumab [Simponi], abatacept [Orencia], tocilizumab [Actemra]) may increase the risk of serious infections and is not advised. Blood pressure medications may increase the risk of low blood pressure during the infusion.

**SIDE EFFECTS**

Sometimes, patients' blood pressure can drop during the treatment. Those who take medication to lower their blood pressure may have to stop it before the infusion. Some patients feel mild side effects during or up to 24 hours after receiving rituximab. These usually occur with the first infusions, and can include mild throat tightening, flu-like symptoms, rash, itchiness, dizziness and back pain, nausea, upset stomach, sweating, nervousness, muscle stiffness, and numbness. These symptoms can be reduced by receiving a steroid injection before the infusion, along with acetaminophen (Tylenol) and diphenhydramine (Benadryl). In the months after the treatment, some people may notice more frequent infections, such as colds or sinusitis. Usually, these are not severe. There are a few rare but serious side effects from rituximab. These include severe skin reactions and mouth sores. Patients who experience vision changes, loss of balance, difficulty walking or confusion should contact their doctors immediately. Combining treatment with other biologic drugs, which suppress the immune system (including etanercept [Enbrel], adalimumab [Humira], infliximab [Remicade], certolizumab [Cimzia], golimumab [Simponi], abatacept [Orencia], tocilizumab [Actemra]) may increase the risk of serious infections and is not advised. Blood pressure medications may increase the risk of low blood pressure during the infusion.

**TELL YOUR DOCTOR**

Tell your doctor if you have lung or heart problems, or have ever had any major infections (especially hepatitis). Let your health care providers know about all medications you are currently taking, including over-the-counter medications, supplements, and herbal therapies. Also, tell them about all allergic reactions you have had to medications. If you are a woman who can get pregnant, it is important to use reliable birth control before treatment and for 12 months afterward. Since vaccines are not as effective for several months after receiving rituximab, you should ideally receive necessary ones before starting treatment or between courses.