MEDICATION NAME:	RITUXIMAB (ANTI-CD20 MONOCLONAL ANTIBODIES) **BRAND : RITUXAN, TRUXIMA, RUXIENCE, RIABNI**
HOW IS IT GIVEN:	Intravenous (IV) infusion.
HOW DOES IT WORK:	CD-20 is a marker on the surface of certain immune cells. Anti-CD20 is a monoclonal antibody that attaches to this surface marker and causes the cells to break down. Specifically, anti-CD20 attaches to and depletes B lymphocytes, including the B cells that produce autoantibodies, such as those that attach to platelets in patients with ITP.
COMMON DOSING REGIMENS:	375 mg/m^2 weekly intravenously over 4 weeks. Lower doses and shorter courses may be effective in some patients.
COMMON SIDE EFFECTS	Infusion reactions, especially with the first infusion. Less common: serum sickness, late-onset neutropenia, and infection.
RARE BUT SERIOUS SIDE EFFECTS	Reactivation of hepatitis B virus, allergic reaction, progressive multifocal leukoencephalopathy (very rare serious brain infection). There is a 'black box' warning to caution users to the rare but potential mouth and skin reactions some of which are called: paraneoplastic pemphigus, Stevens-Johnson syndrome, lichenoid dermatitis, vesiculobullous dermatitis, and toxic epidermal necrolysis. Because B lymphocytes make our healthy immunoglobulins as well as the antibodies responsible for ITP, some patients develop hypogammaglobulinemia (stop making healthy immunoglobulins) after ritxumab use and require regular immunoglobulin infusions.
TYPICAL TIME TO RESPONSE	1-7 weeks.
LIKELIHOOD OF INITIAL RESPONSE	Approximately 40-65%
LIKELIHOOD OF LONG-TERM RESPONSE (3-5 YEARS)	Approximately 20%.
OTHER CONSIDERATIONS:	Recommended quantifying immunoglobulins prior to administration because B cells will be depleted and antibody production will be reduced for 6-9 months. Vaccination should be given before Rituximab is begun if possible or should be delayed until B cell recovery has occurred. Rarely, some people require immunoglobulin replacement after treatment.Not recommended to be used in pregnancy. Can cross the placenta and cause lymphopenia in the fetus.

References:

1. Matzdorff, A., Meyer, O., Ostermann, H., Krefeld, V., Eberi, W., Kuhn, T., Pabinger I., and Rommel, M. (2018). Immune Thrombocytopenia – Current Diagnostics and Therapy: Recommendations of a Joint Working Group of DGHO, OGHO, SGH, GPOH, and DGTI. Oncology Research Treatment. 41(suppl 5):1-30.
2. Patel, V.L et al. (2012). Outcomes 5 years after the response to rituximab therapy in children and adults with immune thrombocytopenia. Blood. June 21: 119(25): 5989-5995.
3. Platelet Disorder Support Association. https://www.pdsa.org/b-cell-depletion.html
4. Rituxan Website. https://www.rituxan.com/