Intravenous Cancer Treatment Education

Association of Community Cancer Centers | Hematology/Oncology Pharmacy Association | NCODA Passion for Patients NCODA.ORG | Oncology Nursing Society

CARFILZOMIB/RITUXIMAB/DEXAMETHASONE (CaRD)

Name of the regimen and cancer drugs

Your care team may refer to your treatment as CaRD. CaRD consists of 3 different anti-cancer therapies.

- Carfilzomib (kar FILZ oh mib): Kyprolis
- Rituximab (ri TUK si mab): Rituxan, Ruxience, Truxima, or Riabni
- Dexamethasone (deks a METH a sone): Decadron

Common uses

Your regimen is used to treat Waldenström macroglobulinemia or Lymphoplasmacytic lymphoma, but may be used for other treatments.

Treatment schedule (Induction Phase)

Your treatment will be given into your vein through an intravenous (IV) line. This may be into a short, flexible temporary catheter in your arm, or through a central venous catheter. A central venous catheter, or central line is a long, flexible IV tube that empties into a very large vein next to the heart. Talk with your care team to see which will be best for you and your treatment.

Each CaRD treatment is repeated every 21 days (3 weeks). This is known as one cycle. Your treatment may be given for a set number of cycles, or it will keep going until the drug, or drugs, stop working or you have side effects which stop you from continuing treatment.

You will receive carfilzomib/rituximab/dexamethasone for 6 cycles (21-day cycles) during the induction phase of treatment.

- ☐ Carfilzomib: Days 1, 2, 8, 9. Carfilzomib is a solution given as an IV infusion over 20 minutes on each treatment day during cycle 1, and over 30 minutes for cycles 2 and beyond.
- ☐ Rituximab: Days 2 and 9. Rituximab is a solution given as an IV infusion on each treatment day. It may be administered more slowly during the first dose to prevent infusion reactions.
- ☐ Dexamethasone: Days 1, 2, 8, 9. The Dexamethasone infusion is given IV infusion over 20 minutes or less on each treatment day.

Drug	Cycle 1 Day 1	2	3	4	5	6	7	8	9	10	...	Cycle 2 Day 1
Carfilzomib												
Rituximab												
Dexamethasone												

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Treatment schedule (Maintenance Phase)

Your treatment will be given into your vein through an intravenous (IV) line. This may be into a short, flexible temporary catheter in your arm, or through a central venous catheter. A central venous catheter, or central line is a long, flexible IV tube that empties into a very large vein next to the heart. Talk with your care team to see which will be best for you and your treatment.

Each CaRD treatment is repeated every 21 days (3 weeks). This is known as one cycle. Your treatment may be given for a set number of cycles, or it will keep going until the drug, or drugs, stop working or you have side effects which stop you from continuing treatment.

You will then receive carfilzomib/rituximab/dexamethasone for 8 cycles (8-week cycles) during the maintenance phase of treatment.

- ☐ Carfilzomib: Days 1 and 2. Carfilzomib is a solution given as an IV infusion over 30 minutes.
- ☐ Rituximab: Day 2. Rituximab is a solution given as an IV infusion on each treatment day.
- ☐ Dexamethasone: Days 1 and 2. The Dexamethasone infusion is given IV infusion over 20 minutes or less on each treatment day.

Drug / Cycle 1	Day 1	2	3	4	5	6	7	8	9	10	...	Cycle 2 Day 1
Carfilzomib												
Rituximab												
Dexamethasone												

Other medications

Other medications may be ordered for you to prevent or treat certain side effects. These include:

	Instructions:
Anti-nausea medication other medications	You will receive medications to prevent nausea and other side effects just before your chemotherapy. You may get prescriptions for other medications to take at home, as below: _____ _____ _____ _____
Infection prevention	There is a risk of serious infections during treatment. You may get prescriptions for medications to take at home for infection prevention, as below: _____ _____ _____ _____

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Possible drug interactions

- ☐ CaRD may interact with other drugs you are taking. Please inform your care providers of all prescription medicine, over-the-counter medications, vitamins, and herbal products that you take.
- ☐ Talk with your care provider or pharmacist before taking new medications, supplements, or receiving any vaccines.

Common Side Effects

Common side effects that have been known to happen in patients receiving CaRD are listed in the left side of this table. In some instances, the side effects may be reported less often but are still important to discuss. This table does not list all the known side effects for this therapy, only the ones that are experienced most often. Not every patient experiences every known side effect of a drug; even if you are taking the same drug as another patient, you may experience different side effects. Options to help manage any side effects that do occur are included on the right side of this table. These should be discussed with your care provider. If you experience any side effect you cannot manage or that is not listed here, contact your care provider.

Possible Side Effect	Management
Decreased white blood cells (WBCs) and increased risk for infection	Your WBCs should be monitored by a simple blood test. When your WBCs are low, you are at a greater risk of having an in-fection. Take the following precautions to protect yourself from infection. • Wash your hands often, especially before eating and after using the bathroom. • Avoid crowds and people with fevers, flu, or other infection. • Bathe often for good personal hygiene. Contact your care team if you experience any signs or symp-toms of an infection such as: • Fever (temperature more than 100.4°F or 38°C) • Chills • Sore throat • Burning when peeing • Tiredness that is worse than normal • A sore that becomes red, is draining, or does not heal. Check with your care team before taking any medicine for a fever or chills.
Infusion Reactions	Rituximab can cause infusion reactions. During your treatments, let the nurse know right away if any of these symptoms happen: chills or shaking, dizziness, fever, itchiness or rash, flushing, difficulty breathing, wheezing, sudden back pain, or feeling faint.

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Possible Side Effect	Management
Changes in electrolyte levels and other laboratory values: **High glucose levels** **High lipase levels** **High amylase leves**	Changes in some lab values may occur and will be monitored by a simple blood test. • You may not feel any symptoms if the changes are mild and they usually are not a sign of a serious problem. • More severe changes may occur which can be a sign of a serious problem. Notify your care team if you have any of the following: • Shortness of breath • Chest discomfort • Weakness or fatigue • New aches and pains • Headaches • Dizziness or confusion • Swelling of your legs or feet • Red or brown colored urine
Changes in liver function	Your liver function will be checked every so often by a simple blood test. Contact your care team if you notice any of the following. • Yellowing of the skin or whites of your eyes • Dark or brown urine • Bleeding or bruising
Rash or itchy skin	• Keep your skin moisturized with creams and moisturizing lotions to decrease the risk of rash or itchiness and wear loose fitting clothing. • Avoid using perfumes and cologne as these products may increase rash symptoms. • Avoid being in the heat for long periods of time. • Your provider may recommend an over-the-counter antihistamine or a topical cream. • Sunlight can make symptoms worse • Avoid sun exposure as much as possible to decrease the risk of sunburn. The highest exposure to UV (ultra-violet) radiation occurs between the hours of 10am and 4pm. • Wear long-sleeved clothing, with UV protection if possible. • Wear broad-brimmed hats. • Apply broad-spectrum sunscreen (UVA/UVB) with at least SPF 30 as often as directed on the bottle. • Use lip balm with at least SPF 30 If your rash or itching continues to worsen, contact your care team.
Reactivation of Hepatitis B Virus (HBV)	This medication can cause hepatitis B virus (HBV) reactivation in patients previously infected with HBV. • You may be tested for HBV prior to beginning treatment with this medication. • Be sure your healthcare provider is aware of any previous HBV diagnosis and treatment, if known. • Patients with past HBV infection may need preventative antiviral medication while receiving and for months after completing this medication. • Additional routine monitoring of HBV levels may be needed in patients who were previously infected with HBV.

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Rare but serious side effects

Tell your care provider if you experience any symptoms of these problems:

- ☐ Carfilzomib may affect your heart's ability to pump blood. Tell your healthcare provider right away if you experience new or worsening shortness of breath, chest pain, irregular heartbeat, or swelling of your ankles or legs.
- ☐ You may have a mild to moderate rise in blood pressure while taking carfilzomib. Take your blood pressure on a regular basis and let your doctor know of any big increases in blood pressure.
- ☐ You may be at a higher risk of bleeding while taking carfilzomib. Be sure to seek medical attention right away if you have any major bleeding. Also be sure to check for any signs of bleeding in your stool.
- ☐ Carfilzomib may result in serious and fatal lung toxicity. If you start to experience shortness of breath, fatigue, breathlessness, or discomfort/worsening of symptoms while lying on your back, please immediately contact your prescriber.
- ☐ Rituximab can cause blockages to form in the large or small intestine. Seek medical attention if you develop severe abdominal pain or other symptoms of intestinal obstruction.
- ☐ These medications may be harmful to your kidneys. Speak to your care team to know when you need to have laboratory tests done to monitor your kidneys.
- ☐ These medications may cause tumor lysis syndrome when starting treatment. Your care team may do blood tests to check for this side effect.
- ☐ Call your care team right away if you have headaches, seizures, confusion or changes in vision, as this may be a severe side effect of the treatment.
- ☐ Before getting any vaccines while taking rituximab, talk to your care team.

If you experience ANY new, worsening, or uncontrolled side effects, call your care team immediately.

_____ **(INSTITUTIONAL CONTACT INFO)**

Handling body fluids and waste

Some of the drugs you receive may be present in urine, stool, sweat, or vomit for many days after treatment. Many cancer drugs are toxic, your bodily waste may also be toxic and can be dangerous to come into contact with. Once you have started CaRD, follow the instructions below for at least two days after your treatment. This is to keep you, your loved ones, and the environment as safe as possible.

- ☐ Pregnant women should avoid touching anything that may be soiled with body fluids from the patient.
- ☐ Toilet and septic systems
  - You may use the same toilet, septic tank, and/or sewer that you usually use. If you have a low-flow toilet, close the lid and flush twice to ensure that all waste has been discarded.
- ☐ If the toilet or toilet seat becomes soiled with urine, stool, or vomit, clean the surface after every use before other people use the toliet.
- ☐ Wash hands with soap and water after using the toilet for at least 20 seconds.
- ☐ If you need a bedpan, be sure your caregiver knows to wear gloves to assist with cleanup and to wash the bedpan with soap and water every day.
- ☐ If you do not have good control of bladder or bowels, use a disposable pad with a plastic back, a diaper, or a sheet to absorb body waste.
- ☐ Wash any skin that has been exposed to body waste with soap and water.
- ☐ Linens or clothing that are soiled with body fluids or body waste should be washed separately from other linens and clothing. If you do not have a washer, place the soiled linens in a plastic bag until they can be washed.
- ☐ Wash hands with soap and water after touching linens or clothing that may be soiled with body fluids.

Intimacy, sexual activity, contraception, and fertility

This treatment may cause changes that can affect intimacy and sexuality, including desire and body image. Maintaining physical closeness and/or intimacy with loved ones can be continued during treatment. Holding hands, hugging, and kissing can be done safely. It is recommended that you talk to your care team about any restrictions or questions you may have.

Some treatments can influence the ability to have children, also known as fertility. If you're interested in preserving fertility, talk to your care team before treatment. Ask your healthcare provider to determine when it is safe to become pregnant after your treatment. Patients of reproductive ability should not become pregnant or get their partners pregnant while receiving CaRD. Some of the drugs you receive may be present in semen and vaginal secretion for many days after treatment. You should use barrier devices, such as condoms, during sexual activity to limit exposure to body fluids.

- ☐ Talk to your care team about birth control. Not all options may be right for your treatment or cancer. Effective contraception could include one or more of the following: barrier methods (e.g. condoms), hormone methods (e.g. birth control pills), or surgery.
- ☐ Tell your care team if you become pregnant or plan to breastfeed.

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Additional resources

Carfilzomib (Kyprolis): https://www.accessdata.fda.gov/drugsatfda_docs/label/2012/202714lbl.pdf
Rituximab (Rituxan): https://www.accessdata.fda.gov/drugsatfda_docs/label/2010/103705s5311lbl.pdf
Rituximab-pvvr (Ruxience): https://www.accessdata.fda.gov/drugsatfda_docs/label/2019/761103s000lbl.pdf
Rituximab-abbs (Truxima): https://www.accessdata.fda.gov/drugsatfda_docs/label/2018/761088s000lbl.pdf
Rituximab-arrx (Riabni): https://www.accessdata.fda.gov/drugsatfda_docs/label/2020/761140s000lbl.pdf
Dexamethasone (Decadron): https://www.accessdata.fda.gov/drugsatfda_docs/label/2014/084916s066lbl.pdf

Updated – January 14, 2022

Additional instructions

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