National Cancer Control Programme

Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

NCCP Guidance on

riTUXimab Rapid Infusion Rate

Version	Date published	Amendment	Approved By
1	October 2017		Dr. Ronan Desmond Prof. Maccon Keane
2	February 2019	Updated to allow option for patients switching to alternate product to maintain the rate of infusion	Dr. Ronan Desmond Prof. Maccon Keane
3	July 2021	Reviewed. Updated nomenclature for chlorphenamine.	Dr. Ronan Desmond Prof. Maccon Keane

1 Background

The licensed infusion rate of riTUXimab in the treatment of cancer can take a number of hours[1]. As a result many hospitals have moved to an unlicensed[2] rapid infusion rate for the treatment of cancer patients based on patient suitability. The use of a rapid infusion rate is a feasible and well tolerated option which can substantially reduce the amount of time taken to infuse each dose of riTUXimab (1-6).

NOTE: Any medicine for which a biosimilar is available, such as riTUXimab, must be prescribed using brand name e.g. Mabthera®, Truxima® in line with the NCCP Guidance on the use of Biosimilar Medicines in Cancer Treatment.

The information contained within this guidance is the most accurate and up to date, at date of approval. This document is intended as a template for local adoption and approval at Drugs and Therapeutics Committee, or equivalent, in line with hospital policy.

2 Infusion Rates

The licensed administration rate of riTUXimab for the treatment of patients with cancer is:

- **Initial infusion:** The recommended initial rate for infusion is 50 mg/hour; after the first 30 minutes, it can be escalated in 50 mg/hour increments every 30 minutes, to a maximum of 400 mg/hr.
- **Subsequent infusion**: The infusion rate subsequently can be infused at an initial rate of 100 mg/hour, and increased by 100 mg/hour increments at 30 minute intervals, to a maximum of 400 mg/hr.

The unlicensed rapid infusion rate, used for second and subsequent infusions when patients did **not** experience a serious infusion related reaction with their previous infusion/s is:

- Initiated at a rate of 20% of the total dose for the first 30 minutes and then 80% of the dose for the next 60 minutes (total infusion time of 90 minutes).

[1] An alternative subsequent, faster, infusion rate is licensed for rheumatoid arthritis as per the Mabthera SmPC.

[2] This is an unlicensed rate of administration for riTUXimab in Ireland. Patient's should be informed of this and consented to treatment in line with the hospital's policy on the use of unlicensed medication and unlicensed or "off label" indications. Prescribers should be fully aware of their responsibility in communicating any relevant information to the patient and also ensuring that the unlicensed or "off label" indication has been acknowledged by the hospital's Drugs and Therapeutics Committee, or equivalent, in line with hospital policy.

Table 1 details the riTUXimab dose and the licensed and unlicensed infusion rates and infusion durations in an average patient (7).

Table 1: Duration of infusion for riTUXimab in an average patient at the infusion rates

Infusion and rate	Average body surface area	Dose to be administered (Based on 375mg/m^2)	Duration of infusion
First infusion at initial rate	**1.79m^2**	**671mg**	**3 hours 25 minutes (See Table 3)**
Subsequent infusions at subsequent rate	**1.79m^2**	**671mg**	**2 hours 26 minutes (See Table 4)**
Rapid rate	**1.79m^2**	**671mg**	**90 minutes**

3 Patient selection for rapid infusion rate

Not all patients will be deemed clinically suitable to have riTUXimab administered at a rapid rate.

3.1 Suitable patients

The rapid infusion rate is only to be used in patients who have received at least one full dose of riTUXimab and who did not experience any serious infusion – related reactions (IRRs).

NOTE: For patients who are already receiving riTUXimab at the rapid rate of infusion and are switching from one riTUXimab product to another, the first infusion of the new product may be given:

1. As per the standard initial infusion rate at cycle 1 i.e. over 3-4 hours. The administration rate may be increased to the rapid rate at the next cycle if no IRRs have occurred.
2. As per the rapid infusion rate already in use with that patient. (8)

The preferred option should be detailed in the local hospital's biosimilar policy.

3.2 Patients unsuitable for rapid rate infusion

- Patients due to receive their first infusion of riTUXimab.
- Patients who have experienced a previous serious infusion-related reaction to any prior biologic therapy.
- Patients who have clinically significant cardiovascular disease, including arrhythmias.
- Patients deemed unsuitable by their treating clinician.

4 Use of premedication to prevent IRRs

It is recommended that all patients receiving biologics have a premedication regimen administered to minimise the risk of IRRs. A sample premedication regimen is detailed in Table 2.

Table 2: Sample premedication for riTUXimab infusion

Pre-medications (Refer to local policy)	
▪ **Anti-histamine**	**E.g. Chlorphenamine 10mg intravenously/orally**
▪ **Anti-pyretic**	**E.g. Paracetamol 1000mg orally**
▪ **+/ - Steroid***	**E.g. Hydrocortisone 100mg intravenously**

(*Patient may have steroids as part of their treatment protocol - consider before prescribing additional steroids)

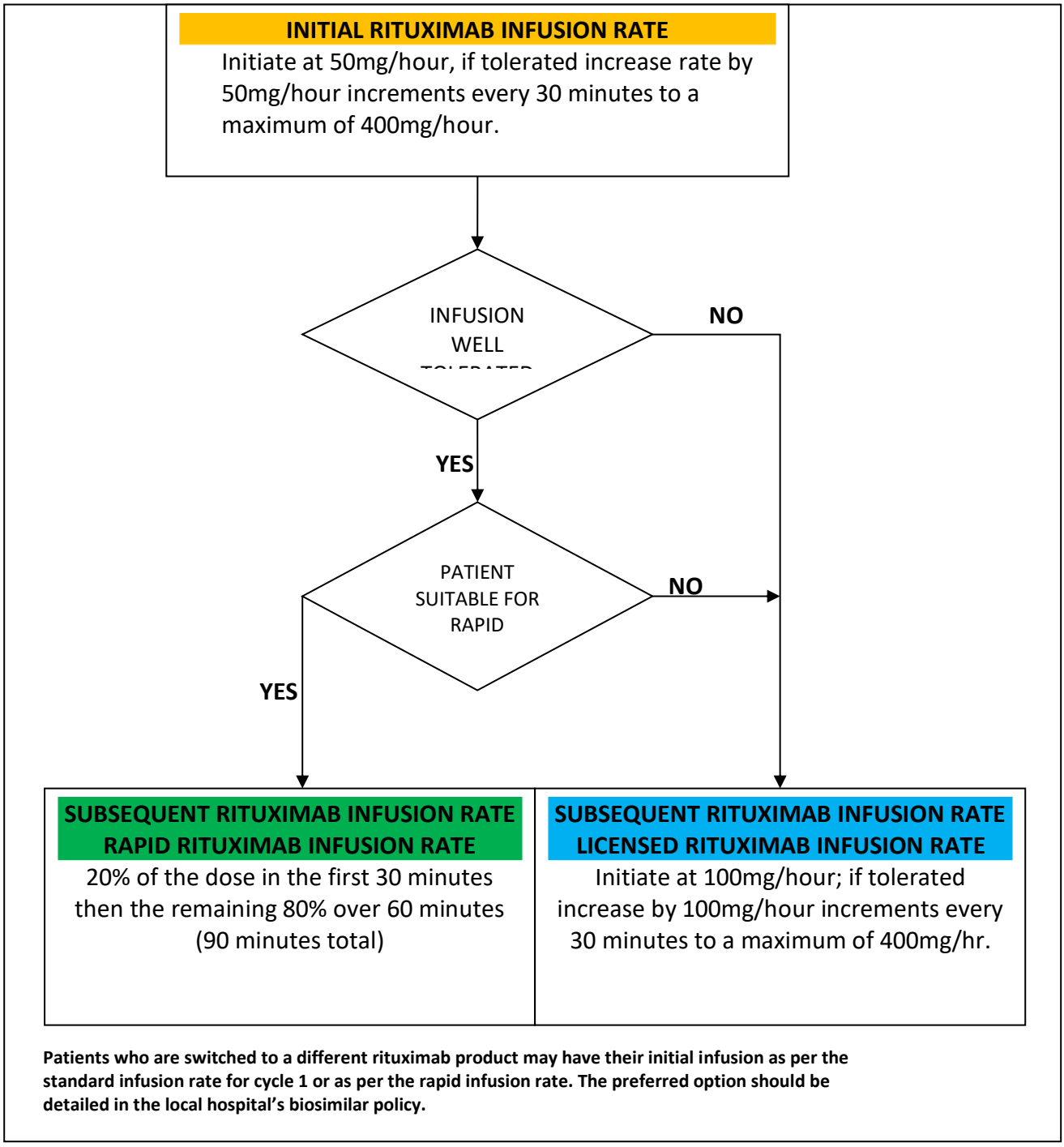
5 riTUXimab Rapid Infusion Rate

If a patient does **not** experience a serious infusion related reaction with their first or subsequent infusions of a dose of riTUXimab administered as per the standard infusion schedule, a more rapid infusion can be administered for second and subsequent infusions using the same concentration as in previous infusions for those patients as deemed suitable per 3.1 above.

The second or subsequent infusion can be initiated at a rate of 20% of the total dose for the first 30 minutes and then 80% of the dose for the next 60 minutes.

If the more rapid infusion is tolerated, this infusion schedule can be used when administering subsequent infusions

Figure 1 Rapid infusion rate for riTUXimab



Patients who are switched to a different rituximab product may have their initial infusion as per the standard infusion rate for cycle 1 or as per the rapid infusion rate. The preferred option should be detailed in the local hospital's biosimilar policy.

Appendix 1 Administration times for initial and subsequent infusions

Table 3 Administration times for initial infusion of 700mg riTUXimab

Time of administration	Rate of infusion	Amount of drug infused	Cumulative
First 30minutes	50mg/hr	25mg	25mg
Next 30minutes (1 hour)	100mg/hr	50mg	75mg
Next 30minutes (1.5hours)	150mg/hr	75mg	150mg
Next 30minutes (2 hours)	200mg/hr	100mg	250mg
Next 30minutes (2.5hours)	250mg/hr	125mg	375mg
Next 30minutes (3 hours)	300mg/hr	150mg	525mg
Next 30minutes (3.5 hours)	350mg/hr	175mg (146mg in 25minutes)	700mg
Next 30minutes (4 hours)	400mg/hr	200mg	N/a

Table 4 Administration times for subsequent infusion of 700mg riTUXimab

Time of administration	Rate of infusion	Amount of drug infused	Cumulative
First 30minutes	100mg/hr	50mg	50mg
Next 30minutes (1 hour)	200mg/hr	100mg	150mg
Next 30minutes (1.5hours)	300mg/hr	150mg	300mg
Next 30minutes (2 hours)	400mg/hr	200mg	500mg
Next 30minutes (2.5hours)	400mg/hr	200mg (171mg in 26 minutes)	700mg

6 References

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