

## **Infusion of Cryopreserved Haemopoietic Progenitor Cells (HPC)**

### **1. PURPOSE**

This applies to the infusion thawed (autologous and allogeneic) HPC derived from either Peripheral Blood (HPC-A), Bone Marrow (HPC-M) or Umbilical Cord Blood (HPC-CB) collections.

### **2. ACTIONS**

#### **2.1 Day Prior to Infusion (Transplant Day -1)**

- Organise a mutually convenient time with the Laboratory (**XT 5832**) for the HPC product infusion.
- The Transplant Physician or delegate must complete an order for infusion of cryopreserved HPC and pre-medication on patient's Medication Chart and hydration on their Complex IV Orders and Fluid Balance Chart:
  - Pre Medication Order –Hydrocortisone 25-100mg IV (2hours prior to infusion) and antihistamine-Promethazine (Phenergan) O/IV and Paracetamol (1hour prior to infusion).
  - IV Hydration Order – 0.9% NaCl (Normal Saline) 125ml/m<sup>2</sup>/hr (commence 2hours prior to infusion of **Umbilical Cord Blood (HPC-CB) or Bone Marrow (HPC-M)**).

#### **2.2 Morning of Infusion**

- Confirm with the Laboratory transplant time, product volume and whether the HPC will be administered via a syringe or bag.

#### **2.3 2-4hours Prior to Infusion**

- Explain the procedure to the patient and parent / caregiver.
- If product is to be administered from a bag, hang normal saline (0.9% NaCl) and line. If using a double lumen catheter, infuse through the large (red) lumen. Obtain blood return to confirm patency and flush with 10mls of normal saline and attach normal saline bag with line. Small lumen may be heparin-locked or maintained with normal saline. (see later if product is to be administered from syringe)
- Administer first part of pre-med order as per Medicine Chart.
- As per order, commence hydration fluids running at 125ml/m<sup>2</sup>/hr, 2hours prior to infusion.

#### **2.4 1hour Prior to Infusion**

- Administer remainder of pre-med order as per Medicine Chart.

#### **2.5 10 minutes Prior to Infusion**

- Attach the pulse Oximeter and Dynamap. Record baseline observations (Temperature, Pulse, Respiration, Blood Pressure and SaO<sub>2</sub>). Ensure that Adrenaline, Oxygen and emergency trolley are available.
- If HPC product is supplied in a bag, saline line should be in place. If product is to be administered from a syringe, equipment required includes sterile dressing pack, sterile gloves, sterile towel, 10 or 20ml syringe and normal saline for flushing the central venous catheter (CVC) line.

**Ensure that the Haematology / Oncology RMO is available on the ward for the duration of the infusion.**

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### **2.6 Infusion (NOTE assess and report any adverse reaction to the Transplant Physician or delegate)**

- **COMMENCE INFUSION IMMEDIATELY** once the thawed HPC product arrives on the ward with the Laboratory Scientist.
- Perform patient ID and HPC product checks according to Standard Operating Procedure.
- Administer 1-5mls of the total volume (approximately 10%) and observe patient for 5minutes. Restart IV fluids or flush line with normal saline to prevent blockage.
- Record vital signs (Temperature, Pulse, Respiration, Blood Pressure and SaO<sub>2</sub>). If stable continue, as a guide infuse syringe over 10minutes and 15-60minutes if HPC product is in a bag.
- Monitor vital signs every 10minutes during infusion. Assess for any immediate adverse reaction. **REPORT.**
- Record time of completion of HPC product infusion.

### **2.7 Post Infusion(NOTE assess and report any adverse reaction to Transplant Physician or delegate)**

- Continue monitoring vital signs every 15minutes for 1hour, then 30minutes for 2hours, then hourly for 4hours following HPC product infusion.
- Continue IV fluids as charted. Test first void of urine for haemoglobin. Haemoglobinuria is related to free haemoglobin in the HPC product.
- Document development and resolution of Haemoglobinuria. Encourage frequent voiding and **report oliguria** with UOP <2/ml/kg/hr.
- Assess patient for delayed reactions, ie renal failure, infection. **REPORT.**

### **2.8 Discharge (for patients not admitted to CCC)**

- Patients who are haemodynamically stable, **NOT** hypertensive and **DO NOT** have haemoglobinuria may be discharged 4/24 post infusion, as assessed by the Transplant Physician or delegate.
- Heparin lock CVC prior to discharge according to standard procedure.

## **3. REFERENCE DOCUMENT**

Transplantation of Cryopreserved Haemopoietic Progenitor Cells. CL-P-001.