DMSO: Follow local guidelines to access

The extravasation kit is situated:

GUIDELINE FOR MANAGEMENT OF EXTRAVASATION

Extravasation is a severe complication in the administration of cytotoxic chemotherapy. It causes pain, erythema, inflammation, discomfort and if left undiagnosed or inappropriately treated can lead to necrosis, secondary infection and functional loss of the tissue and/or limb concerned. This may also hinder future treatments in some cases. If treatment is delayed, surgical debridement, skin grafting and even amputation may be the consequence

NHS England
East Midlands Cancer Alliance

1. STOP the injection immediately, but leave the cannula in place
2. Classify the agent using the tables below and treat as directed (if not listed below consult Pharmacy)
3. Collect extravasation kit
4. Apply hot/cold pack immediately (check flow chart below for details)

5. Aspirate as much fluid as possible through the cannula with a 10ml syringe, try to draw back about 3 to 5ml of blood
6. Mark the extravasation area with a permanent marker pen
7. Contact the patient's doctor N.B. Nurses can refer the patient to the hand team
8. Remove the cannula only after appropriate initial treatment below

Vesicants DNA-binding

Amsacrine
Dacarbazine
Dactinomycin
Daunorubicin
Doxorubicin
Epirubicin
Idarubicin
Mitomycin C
Trabectidin

AIM: LOCALISE & NEUTRALISE

- Apply cold pack for 30 minutes then15-20 minutes, 3-4 times daily for at least 24 hours to help localise the infusate
- Neutralise the infusate by applying a thin layer topical DMSO to the marked area using a cotton bud. Avoid unaffected skin. Do not use DMSO If blistering present
- Allow the DMSO to dry, and then cover with a non-occlusive gauze dressing, this should be applied within 10-25 minutes
- Apply DMSO, every 2 hours on day 1 and then every 6 hours for up to 7 days to the affected site
- 3 hours after first DMSO application apply hydrocortisone 1% cream twice a day for 7 days
- Elevate the limb above the heart
- Consider the use of Savene where available and appropriate
- **Refer to Plastic Surgeon/Hand surgeon for advice ASAP**

Vesicants Non-DNA-binding

Cabazitaxel
Nab-paclitaxel (Abraxane)
Vinblastine
Vincristine
Vindesine
Vinflunine
Vinorelbine

AIM: DISPERSE & DILUTE

- Apply a heat pack to the affected area initially for 2-4hours then for 30 minutes 4 times daily for at least 24hrs
- If there is no blood return in the affected IV catheter, consider infusing 0.4ml of hyaluronidase mixture directly through the affected IV catheter before removing the catheter and administering the remainder of the dose subcutaneously around the periphery extravasation
- Give several subcutaneous (or intradermal) injections of 150 – 1500 units of hyaluronidase diluted in 1 mL sterile water as 5 separate 0.2ml injections around the periphery extravasated area to dilute the infusate
- Use 25 to 27 gauge needle and change after each injection
- If affected elevate the limb above the heart
- Apply hydrocortisone 1% cream twice a day for 7 days
- **NB**. Administration of hyaluronidase should begin within 1 hour of extravasation for best results
- **Refer to Plastic Surgeon/Hand surgeon for advice ASAP**

Irritants 1

Arsenic Trioxide
Cyclophosphamide
Liposomal Daunorubicin
Liposomal Doxorubicin
Etoposide
Fluorouracil
Ganetespib
Ifosfamide
Mephalan
Mitoxantrone

Possible irritants 2

Carboplatin
Cisplatin
Docetaxel
Gemtuzumab Ozogamicin
Irinotecan
Oxaliplatin*
Topotecan

Drugs in this box should be treated as below initially then referred to the hand team

Vesicants Non-DNA binding

Paclitaxel
Streptozocin

Vesicants DNA binding

Bendamustine
Busulfan
Carmustine
Chlormethine (Mustine)
Treosulfan

AIM: LOCALISE

- Apply cold pack for 30 minutes every 4 hours for 24 hours (*for **oxaliplatin only – treat using a hot pack** to avoid the risk of paraesthesia which can be precipitated by cold)
- Apply hydrocortisone cream 1% every 6 hours for 7 days or as long as erythema persists
- For **VESICANTS Refer to Plastic Surgeon/Hand surgeon for review/advice ASAP**

Non-vesicants 1

Aflibercept
Asparaginase
Bleomycin
Bortezomib
Brentuximab vedotin
Carfilzomib
Cladribine
Clofarabine
Cytarabine
Eribulin
Etoposide phosphate
Fludarabine
Gemcitabine
Immunotherapy
Inotuzumab ozogamicin
Interferons
Interleukin-2
Methotrexate
Mifamurtide
Monoclonal antibodies
Nelarabine
Pemetrexed
Pentostatin
Pixantrone
Raltitrexed
Temsirolimus
Thiotepa
Trastuzumab emtansine
Vosaroxin

AIM: SYMPTOMATIC RELIEF

· Elevate the limb above the heart
· Consider applying a cold pack if local symptoms occur
· Apply hydrocortisone cream 1% four times each day if erythema is present

Any drugs not in above tables please refer to your local pharmacy department

1 Any agent extravasated in high enough concentration may be an irritant

2 There have been few reports of these agents acting as irritants, but there is no clear evidence for this

NOTE: For those medications that are not considered a vesicant but cause prolonged patient discomfort at the infusion site, it is strongly recommended that a central line be placed

NB. Causes which may commonly lead to misdiagnosis include: Allergic reaction / flare reaction / vessel reaction / venous shock / phlebitis etc

- Complete documentation and send to nominated person:
  - Nursing +/- Medical notes / records
  - ChemoCare/ Prescription
  - Incident form (DATIX form)
  - Patient information leaflet
- Give analgesia if necessary
- · Arrange a follow-up appointment. The extravasation should be reviewed after it has occurred at:
  24 hours, 72hours, and 1 week and 3-4 weeks and then subsequently until resolution of erythema if present. if the patient is not initially followed up by the plastic/hand team.
- · Contact pharmacy for replacement drugs
- **The treatment proposed above is "first aid" only. Seek further advice – early review by plastic surgeon is advisable, consider medical photography**

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