National Cancer Control Programme

Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

NCCP BACKGROUND DOCUMENT

EXTRAVASATION CLASSIFICATION OF SYSTEMIC ANTI-CANCER THERAPY

Version	Date	Amendment	Approved by
1	21/06/2017	Version 1	NCCP
2	21/11/2019	Document reviewed to: 1. Amendment of MOCIS to NCIS 2. Inclusion of tallman lettering 3. Addition of avelumab, atezolizumab, blinatumomab, dinutuximab, durvalumab, inotuzumab, ramucirumab, vinflunine,	NCCP

All comments and feedback are welcome at oncologydrugs@cancercontrol.ie

Background

Drugs used in Systemic Anti Cancer Therapy (SACT) particularly cytotoxics, can be extremely irritating and cause damage if they extravasate or infiltrate into surrounding tissues during intravenous administration. Extravasation refers to the inadvertent infiltration of any liquid (fluid or drug) from a vein into the subcutaneous or subdermal tissues during intravenous administration (1). Depending on the type, extravasation can result in damage to the tissues, cause pain, erythema, swelling and blistering. If left undiagnosed or inappropriately treated, this can lead to necrosis, secondary infection and functional loss of the tissue or possible permanent damage to the limb involved (2).

Management of an extravasation depends on which drug has accidentally leaked into the tissues. Therefore, it is vital that the classification of the drug is known in order to direct the management of the extravasation.

Currently, most hospital delivering HSE funded SACT services maintain their own extravasation classification lists and there are some variations between hospitals. The introduction of the National Cancer Information System (NCIS) presents a potential opportunity to implement a series of standardised documents for inclusion within the (NCIS) configuration. The NCCP has developed a standardised nursing document for the assessment of a suspected or diagnosed extravasation injury and an accompanying list of extravasation drug classifications for use in Irish hospitals and if possible, for inclusion within the NCIS configuration. The extravasation classification list is based on current International evidence (3-15).

The NCCP extravasation classification list (Appendix 1) will classify parenteral SACT into **four** different types depending on their ability to cause local damage after extravasation. These categories should be implemented in all future extravasation recording documentation and electronic systems where possible.

- Vesicants DNA Binding
- Vesicants Non DNA Binding
- Irritants
- Neutrals (Non vesicants)

As per the NCCP Oncology Medication Safety Review Report (16), each hospital is required to have a policy governing the prevention, recognition and treatment of extravasation. This should be developed in line with local practices and incorporate references to the documentation as described above.

Appendix 1. Extravasation Classification of Systemic Anti-Cancer Therapy

Vesicants			
Vesicants DNA Binding		**Vesicants Non DNA Binding**	
Amsacrine	EpiRUBicin	PACLitaxel	VinBLAStine
Bendamustine	IDArubicin	PACLitaxel NAB	VinCRIStine
Carmustine	Mechlorethamine		Vindesine
DACTINomycin	MitoXANTRONE		Vinfluine
DAUNOrubicin	MitoMYcin C		Vinorelbine
DOXOrubicin	Trabectedin		VinBLAStine
Irritants			
Arsenic trioxide	CISplatin	Flourouracil	Streptozocin
AzaCITIDine	Dacarbazine	Gemtuzumab Ozogamicin	Teniposide
Bortezomib	DOCEtaxel	Ifosfamide	Temsozolomide
Busulfan	Liposomal DAUNOrubicin	Irinotecan	Topotecan
Cabazitaxel	Liposomal DOXOrubicin	Melphalan	Trastuzumab Emtansine (Kadcyla®)
CARBOplatin	Etoposide	Oxaliplatin	Streptozocin
Non Vesicants/Neutrals			
Aflibercept	Cetuximab	Inotuzumab	Pemetrexed
Aldesleukin	Cladribine	Interferons	Pentostatin
Alemtuzumab	Clofarabine	ipilimumab	Pertuzumab
Amifostine	Cyclophosphamide	Methotrexate	Pixantrone
Asparaginase	Cytarabine	Mifamurtide	Raltitrexed
Atezolizumab	Daratumumab	Nelarabine	Ramucirumab
Avelumab	Decitabine	Nivolumab	RiTUXimab
Bevacizumab	Dinutuximab	Obinutuzumab	Ruxolitinib
Bleomycin	Durvalumab	Ofatumumab	Siltuximab
Blinatumomab	EriBULin	Panitumumab	Temsirolimus
Brentuximab-vedotin	Fludarabine	Pegaspargase	Thiotepa
Carfilzomib	Gemcitabine	Pembrolizumab	Trastuzumab (Herceptin®)

References

1. Fidalgo J.A, et al. Management of chemotherapy extravasation: ESMO-EONS Clinical Practice. Guidelines. Annals of Oncology 2012; 23: 167-173.
2. NHS East Midlands. Guidelines for Management of Extravasation, 2015.
3. Quicklinks table, eviQ Extravasation Management, 2019.
4. Extravasation Guidelines Implementation Toolkit, EONS 2007.
5. Management of chemotherapy extravasation: ESMO-EONS Clinical Practice Guidelines.
6. Chemotherapy extravasation guideline, WOSCAN 2009.
7. Assessment, Prevention & Management of Extravasation of Cytotoxic Medications GONG Cancer Care Guidelines 2009.
8. Extravasation policy for all drugs, chemotherapy & non chemotherapy, NHS Tayside, 2008.
9. Policy for the Treatment of extravasation Injury, NHS, Avon, Somerset and Wiltshire 2012.
10. Guideline for Management of Extravasation, NHS East Midland, 2018.
11. Extravasation Hazard Table, BCCA 2019.
12. Guidelines on Treatment of extravasation with Cytotoxic Drugs, NHS Thames Valley 2014.
13. Policy on the Management of Extravasation, Network Site Specific Group 2016.
14. Extravasation injury from chemotherapy and other non-antineoplastic vesicants, UpToDate 2017.
15. Cancer Care Ontario Drug Formulary.
16. NCCP. Oncology Medication Safety Review Report 2014.