

A PATIENT'S PERSPECTIVE OF EXTRAVASATION INJURY TREATED AT A BURNS CENTRE

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Introduction

Extravasation injury is the damage caused by inadvertent infiltration of intravenous medication into the surrounding tissue. Some of these injuries can have severe ramifications including the need for reconstructive surgery, and can significantly impact the mental health of already vulnerable patients. Various extravasation injury protocols exist in hospitals and regional networks but none appear to have any patient involvement in their development, especially in high risk areas such as those delivering intravenous chemotherapy and intensive care units.

A study which investigated extravasation over a five-week period in Birmingham City Hospital NHS Trust, established an incidence of 39%, with Morphine Sulfate as the most common drug to be extravasated [1]. 5% of the patients receiving cytotoxic chemotherapy experienced extravasation. The incidence of extravasation injuries remain underemphasised in literature. It has been estimated at around 0.1% to 6% in patients receiving chemotherapy [2]. It is clear that a lot of the cases go unreported.

Extravasation injuries can be asymptomatic initially or present with erythema or pain. Erythema can then progress to blistering and skin necrosis. Patients presenting late often present with a black eschar with an underlying ulcer. It should be noted that other chemotherapy drugs such as doxorubicin, Epirubicin, and Mitoxantrone have been reported to cause skin discoloration when administered intravenously and this should not be regarded as extravasation[3].

AIM: We sought to understand better the patient experience and journey in the aftermath of an extravasation injuries and how care pathways for these patients might be improved.

We were also keen to capture the psychological impact of such an injury on patients undergoing cancer or ICU care, for the education of staff and for purposes of potentially updating extravasation injury treatment protocols and guidelines.

Current Trust guidelines on management of extravasation injuries

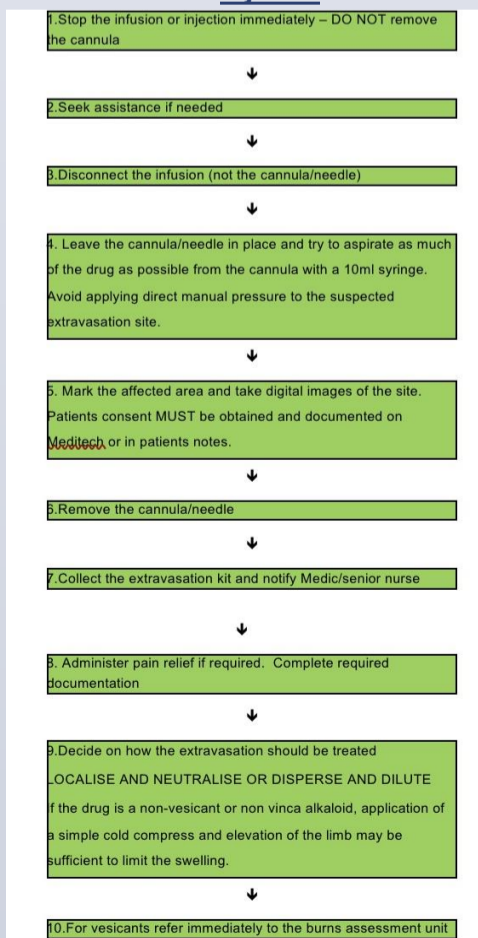


Figure 1: Flow chart for management of extravasation injuries according to St Helen & Knowsley Trust guidelines [4].

List of vesicants, irritants and non-vesicants of systemic anti-cancer treatments

Vesicants	Irritants	Non-vesicants
Aclarubicin	Carboplatin	Aldesleukin (IL-2)
Amsacrine	Carmustine	Allemtuzumab
Bendamustine	Cisplatin	Arsenic
Dactinomycin	Dacarbazine	Trioxide Asparaginase
Daunorubicin	Etoposide	Bleomycin
Docetaxel	Fluorouracil	Bortezomib
Doxorubicin	Ifosfamide	Cladribine
Epirubicin	Irinotecan	Cyclophosphamide
Idarubicin	Ixabepilone	Cytarabine
Mitomycin C	Liposomal doxorubicin	Etoposide phosphate
Mitoxantrone	Liposomal daunorubicin	Fludarabine
Paclitaxel	Melphalan	Gemcitabine
Trabectedin	Oxaliplatin	Interferons
Vinblastine	Streptococci	Interleukin-2
Vincristine	Teniposide	Methotrexate
Vindesine	Topotecan	Monoclonal antibodies
Vinorelbine		Nelarabine
		Pemetrexed
		Pentostatin
		Raltitrexed
		Temsirolimus
		Thiothepa

RED = apply warm compress to affected area for 20 mins to disperse and dilute 4 x daily for 24-48 hours .

BLUE = apply cold compress to affected area for 20 minutes to localise and neutralise 4 x daily for 24-48 hours.

Patient experience

With the consent of the patient and help from the medical photography department we conducted a recorded video interview with a patient who was treated at our burns centre following an extravasation injury. The patient shared her experience of the treatment she received from the time of injury to healing and shared her thoughts on what would have improved her experience. The video footage was edited into an 8-minute production.

The video footage displays an unfortunate case of a 72 year-old lady diagnosed with breast cancer, who sustained an extravasation injury with chemotherapy agents through a right-hand peripheral line. The resulting injury to her right wrist had both a physical and psychological impact on her, but also led to immediate cessation of her cancer treatment. The patient was managed conservatively with dressings only, for 4 months (figures 2 & 3). During the patient's course of wound management, her remaining chemotherapy sessions could not be completed. The patient received psychological support from the psychologist at the burns centre but received no psychological support or counselling around the time of injury nor written information about her condition.



Figure 2: Photo at initial presentation to the burns service



Figure 3: Nearly healed at 4 months after injury

Discussion

Patients are usually informed about the possibility of extravasation during chemotherapy. In our case the patient was aware of the possibility of extravasation and had been assured that it was a rare occurrence and that the staff in the chemotherapy suite were trained to deal with the incident in a timely manner. However, after the whole experience, the patient felt that she had not been prepared adequately for the consequences of the injury on her cancer treatment. The patient experienced a lot of anxiety and low mood because of this. Ultimately, the multitude of the injury exceeded her expectations. The patient expressed that she would have appreciated an acknowledgment from the team treating her and that someone, in her own words, 'check on her'.

The Mersey burns centre frequently involves the mental health service in the multidisciplinary treatment of burn patients. Since the burns team was involved with the care for this patient, she had the benefit of involvement of mental health team to support her psychological needs.

Conclusions

There are a number of hospital and regional protocols relating to extravasation injury. None of those protocols caters for the mental health needs of the patient. Furthermore written information for patients is absent.

The interview was both therapeutic for the patient and informative for the burns team. Apart from medical management, good communication from health workers and full psychological support is needed for these patients with already fragile mental health. This experience has set the scene for a more patient-centric approach to extravasation injury guidelines and protocols which we hope to update – including elements of psychological intervention which are completely absent in all local and regional protocols.

Recommendations

- Extravasation protocols to have greater focus on the psychological needs of patients. This would improve the patient experience and may have an impact on the potential for litigation arising from such incidents.
- Written information to be available for patients who have experienced an extravasation injury.

References

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