

Analysis on Arm port associated complications in the oncology department in St George's Hospital

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Background

Arm port devices are indicated for patients, who need long-term intravenous therapy. Oncology patients may require intermittent administration of chemotherapy, infusions, or blood transfusions.

An arm port system is composed of a port chamber attached to a central catheter, which is implanted into the central venous system. The subcutaneous location of the catheter chamber improves the patients' quality of life and the infection rate is lower than in non-totally implantable central venous access devices. However, proper implantation, use, and care of a port system are important to prevent short- and long-term complications. Complications include infection, catheter thrombosis, vessel thrombosis and stenosis, catheter fracture with extravasation, or fracture with migration or embolization of catheter material.

Objectives

To examine the prevalence of arm port related complications in terms of infection, arm exposure and port associated deep vein thrombosis (DVT)

To examine the patient and clinical characteristics of patients with arm port associated complications

Method

Retrospective analysis of clinical data obtained from electronic patient records of patients who received arm port insertion in St George's hospital since September 2022

The data analysed covers patient having arm port insertion from 1/11/22 to 10/7/23.

Results

A total number of patients with complications with port associated thrombosis (DVT) 4 (3.9%) port exposure with unknown cause 3 (2.9%), infection only 1 (1.0%), infection and exposure 2 (2.0%) and infection and port related thrombosis 3 (2.9 %).

The demographic data also contemplate in port complication These are age, sex and comorbidities, between the age 42-67 years old (n=4) (median 52), Female patient (n=2 (50%), with no co-morbidities n=3 (75%), with co-morbidities n=1 (25%) and tumour sites 25% haematology and 75% are Lower Gastrointestinal cancer which developed DVT. With exposure complication between the age 55–71-year-old patient n=4 (median 63), female n=3 (75%) male n=1 (25%), No co-comorbidities n=2 (50%) with co comorbidities n=2 (50%) ,100% are lower gastrointestinal tumours. The total numbers of infection between the age of 44-75 years old are n=5 (median 74, There is n=1 (20%) female and n=4 (80%) male, No co morbidities n=1 (20%), with comorbidities n=4 (80%). Lower GI with 60%, both breast and upper GI have 20% rate of infection. The types of systemic anti-chemotherapy treatment (SACT) current and previous SACT also review to identify effect on patients with arm port insertion, R-GDP and FOLFIRI (palliative) n=3 (75%) for adjuvant treatment and n=1 (25 %). There are N=4 100 % exposure on patients receiving FOLFOX and FOLFIRI + cetuxumab. There are 60% (n=3) palliative patients received FOLFIRI and 40% Neoadjuvant chemotherapy received Carbo/Paclitaxel, Pembro and FLOT develop infection related arm port.

All reported complication has been action for suspected DVT 2 patients has same day ultrasound, 1 offered same day but patient declined, and 1 patient have the next day in AAA ward due to late attendance in emergency department. With reported port erosion 2 were removed the same day, 1 removed the following day and 1 removed after 2 days. All patients with suspected port infection received antibiotics on the same day. Unfortunately, no photos taken on DVT, 1 photo taken on exposure and 1 photo with suspected infection. The number of dwelling dates for arm port before reported complication are 20-112 (median 51.5) days for exposure and 3-88 days (median 40) for infection. No data showing for DVT. There are 0% on DVT, exposure n=2 (50%) and n=4 (80%) with delays on treatment, however there are 0-20 (median 3.5 days) and 0-51 (median 7 days) days of treatment delays.

All insertion details are also review on electronic health record individually. No documented skin toxicities are identified at the point of port infection. All port insertion done by the venous access team 100% are documented on I clip. There are 100 % documented that all insertions are attempted once and 100% all ports are inserted on the right arm. 0% immediate complication documented.

All patients reported complications, new venous access was inserted 75% (n=4) for exposure and 80% (n=4) for infection. No new line inserted with DVT. Four new PICC line inserted with patients with exposure and 3 (n=3) PICC line with suspected infected port and 1 (n=1) have another port inserted.

Discussion

Most affected tumour site is patients with Lower GI cancer across all complications due to the need of arm port

Most patients are older (>65 years old), with comorbidities (>2 PMH) and previous SACT.

Good documentation during port insertion and at THDU attendance. No photo was taken for suspected infection

Most with prompt port removal but it took 5 days for one patient for port removal

Conclusion

Current data at single centre suggested a complication rate of 8% in colorectal patients, with Infection rate of 5.8%; DVT rate of 0.9%; dislocation rate of 1.8% [1]. Our data showed

No more updated data for comparison