



Complications of implantable chemotherapy ports a single center experience



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Introduction

One frequent employed type of venous access system is the Port A Cath system - usually set on the purpose of periodic administration of chemotherapy for the treatment of various malignancies. Complications of port system occur in up to 30%. Most common complications are infection and catheter-related thrombosis.

Materials and methods

We analyzed retrospectively the records of 208 patients of our hospital between 2021 and 2025 who received subcutaneous port catheter with regard to implantation complication and complications in the course of Port Cath use. All patients had underlying malignant condition. The procedure was done under local anesthesia. Puncture of subclavian vein or internal jugular vein was done more frequently with-out ultrasound guidance followed by the insertion of the guide wire under fluoroscopic guidance (C arm). Post procedure chest X ray was done to document the port place.

Results

Of the 208 implantation 125 were female (60,1%) and 73 male (39,9%). Gastro-intestinal cancer was the most common underlying diagnosis followed by breast cancer. The most common site of insertion was the right subclavian vein (87%), followed by left subclavian vein (12%). Post-operative complications occurred in 22 patients – of these 8 were perioperative (3,8%) and 14 were long-term complications.



Fig 1- Catheter infection



Fig 2 - Catheter pinch-off



Fig 3, 4- Catheter migration

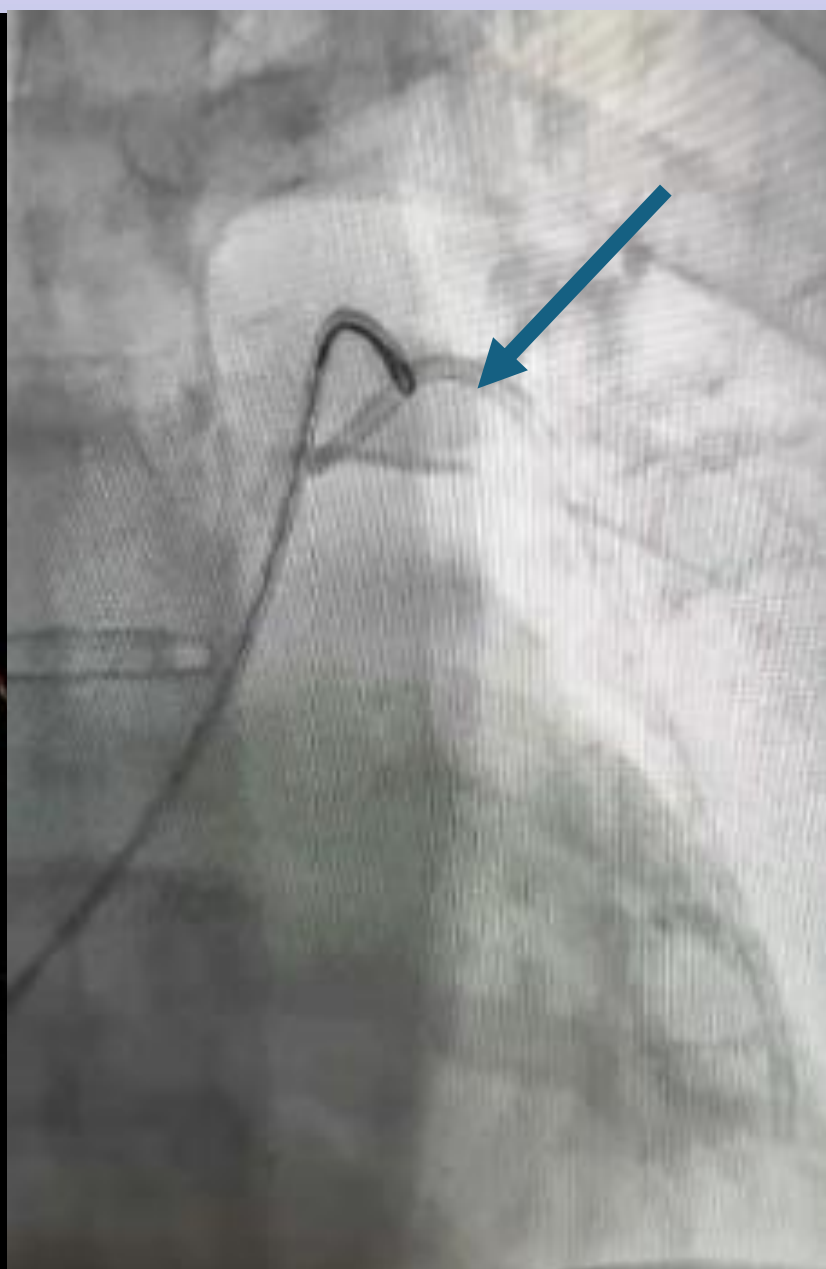


Fig 5, 6
Fragment removed

Discussion

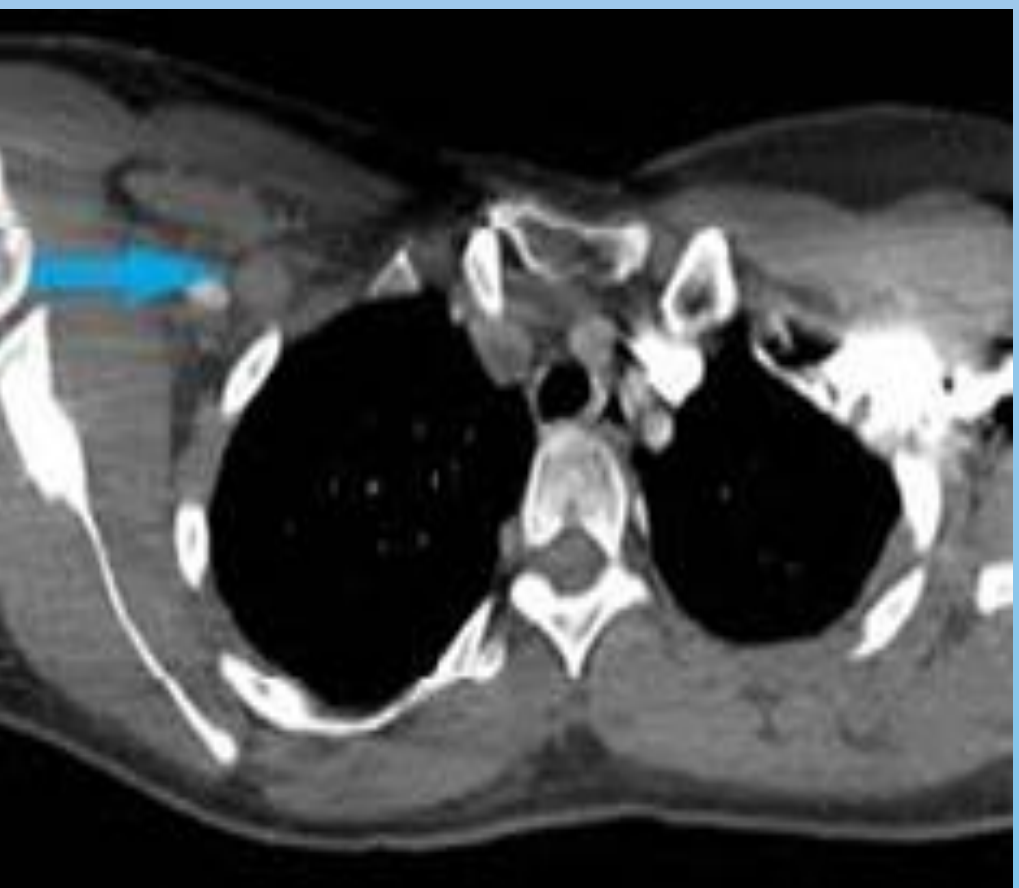
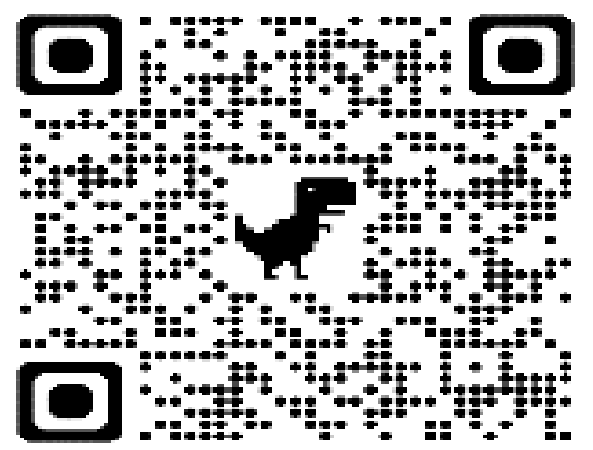
Complication of port system are divided into early (<30 days after implantation) and delayed (>30 days) complications. The overall complication rate has been reported 7,2-12,5%, with port system infections being the most common – followed by catheter related thrombosis. In our study the most common complication was catheter related infection (4,3%). The most severe early complications are hemothorax and pneumothorax – but we have not had any cases of these. In our study, delayed catheter fracture occurred in one patient and migrated in pulmonary artery(fig.3-4). The fragment was removed by interventional radiologist.(fig 5-6)

Conclusion:

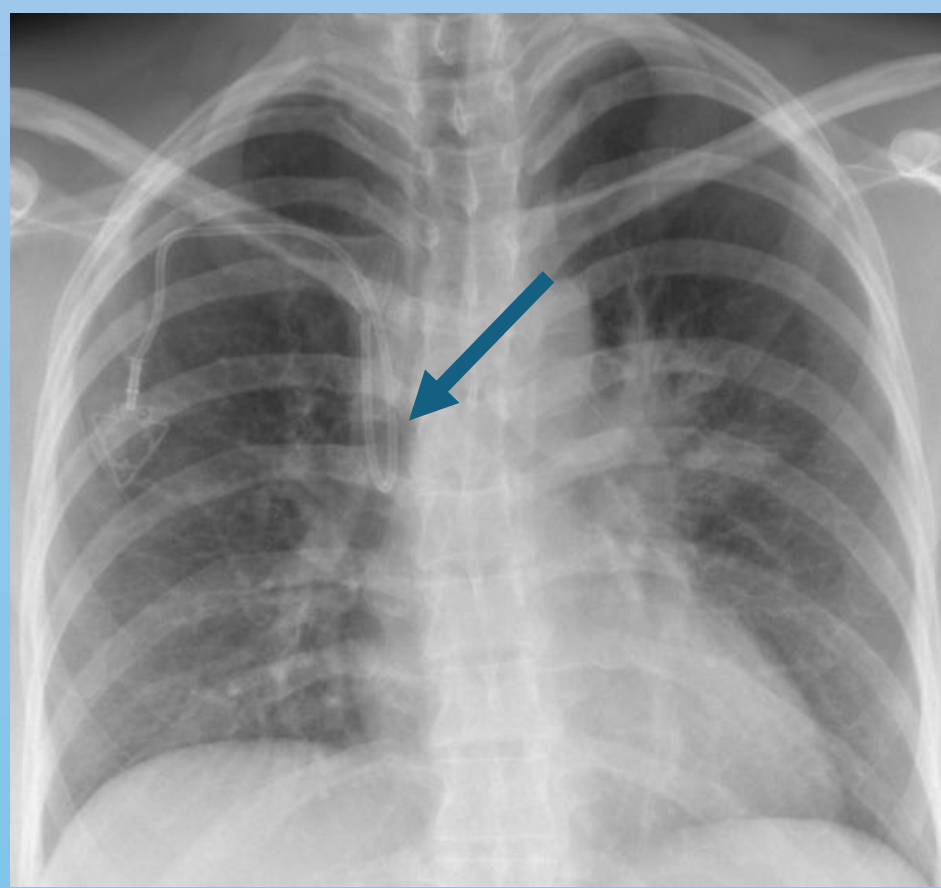
Central venous port systems have a significant role in treatment of oncological patients. Most frequent complications are the delayed ones, but the major complications (pneumothorax eg.) appear periprocedural early. To prevent major complications we recommend routine post-operative chest X-ray. Imaging is also important to plan interventional procedures for retrieval of fractured and embolized catheter fragments.

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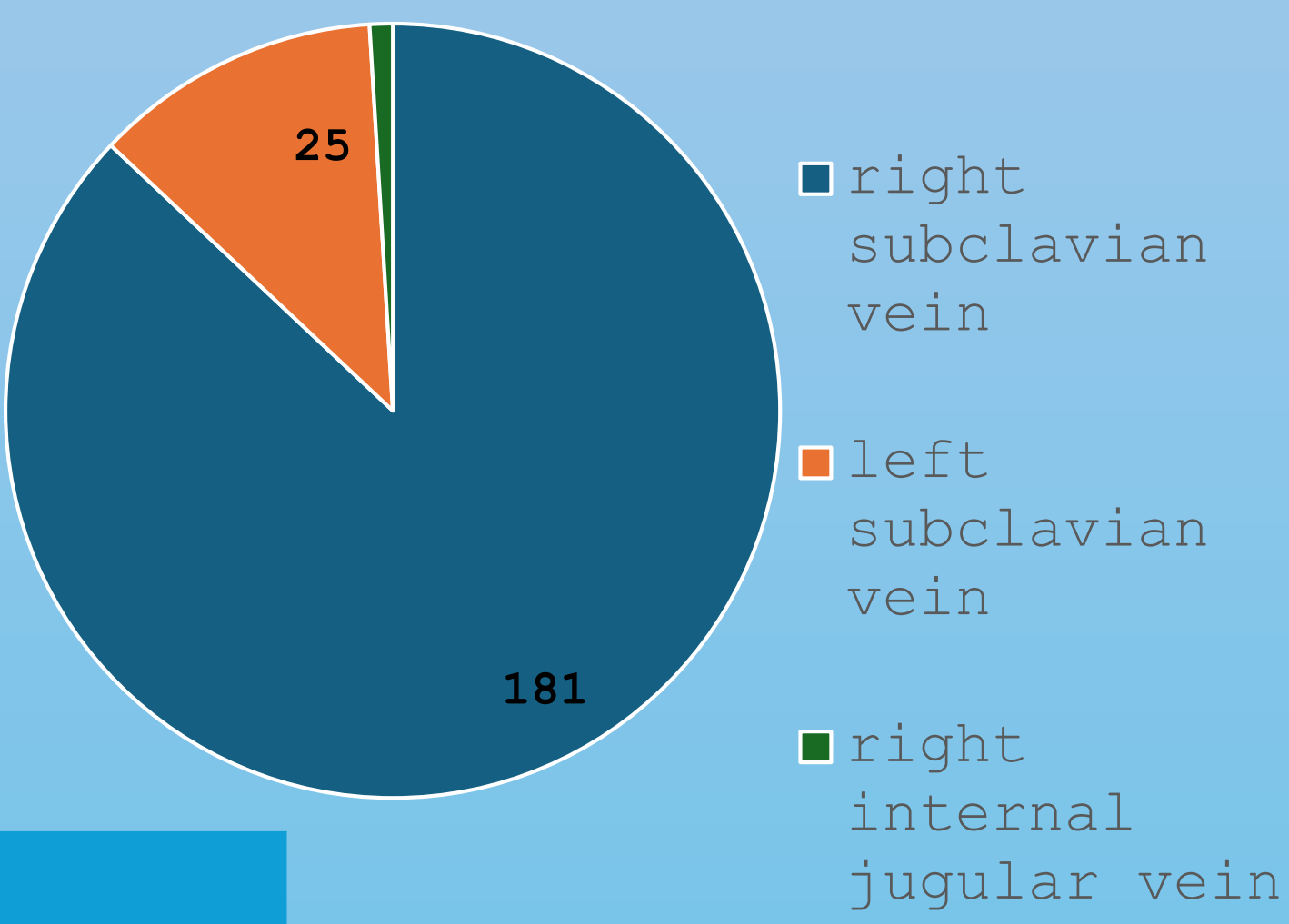


Right subclavian vein thrombosis



Malposition

Site of insertion



Complications after port implantation	Number
early complications	
malposition (intravenous, cardiac)	2
mechanical failure	2
arterial puncture	4
delayed complications	
infection	9
venous thrombosis	4
catheter pinch-off, fracture and migration	1

Type of cancer

