MAR Clinical Case Reports (2023) 8:4

Case Report

Chemo-Port Insertion in CA Stomach Patient

Sie Thu Myint *[1,2], Zin May Win [3], Aung Myat Thu, Nay Myo Htun[4], Thein Lwin [1]

1. Department of surgery, University of medicine (1), Yangon,

2. Surgical ward 2, Yangon General Hospital

3. Academy Hospital

4. Department of Anaesthesiology, University of medicine (1), Yangon.

***Correspondence to:** Sie Thu Myint, Department of surgery, University of medicine (1), Yangon, Surgical ward 2, Yangon General Hospital.

Received: 18 October 2023

Published: 01 November 2023

Introduction

Implantable chemo-port device is very useful for long-term venous access for infusion of chemotherapeutic drugs and other agents.

The administration of parenteral nutrition, blood products transfusion, antibiotics and IV fluid administration, and repeated venous sampling, can be done via chemo-port and so repeated venipuncture can be avoided.

Venous access device systems are nowadays widely used in cancer patients to facilitate frequent perfusions of chemotherapy.[1]

Usually, chemo-port placement is tolerated in majority of patients but there can be complications accompanying chemo-port – early or late.

Complications at the chamber insertion site included infection and erosion. Infection of the chamber insertion site comprised erythema, tenderness, and occasional discharge.[2]

In the study by Shah et al., 3 out of 263 patients with chamber insertion site infection presented with redness, swelling, and pain, and they were administered antibiotics and settled within a week and did not require a port removal.[3]

Skin erosion at the chamber insertion site is a rare long-term complication. The skin overlying the chamber generally breaks down, exposing the device in the subcutaneous space. Skin erosion is a gradual process, which results in infection. This may manifest systemically as a fever with chills and/or locally with discharge or abscess. However, erosion without infection has also been documented.[4]

Malposition of a central venous catheter is the situation in which catheter lies outside of SVC, whose tip not located in the ideal position. There are two types of malposition based on the location of the catheter, namely intra-cava malposition and extra-cava malposition. [5]

Catheter-associated thrombosis may occur spontaneously or from a prothrombotic state associated with an underlying malignancy or treatment. The association between cancer and thrombosis arises as a consequence of cancer treatment and direct vessel trauma, which is a result of long-term central venous catheter placement.[6]

Case Presentation

A 78-year-old lady underwent partial gastrectomy and gastrojejunostomy three years ago and completed chemotherapy. She presented with pallor, lethargy, loss of appetite and fever for one week. On examination, no mass was palpable in the abdomen. Ultrasound examination showed mass near the duodenal stump.

Computerized tomography showed recurrent mass near duodenal stump and metastatic common hepatic, peri-gastric and para-aortic nodes and left renal vein thrombosis. Oesophago-gastro-duodenoscopy showed no recurrence. Blood culture was sterile. Urine culture showed Enterococcus faecium. Antibiotics and parenteral nutrition were given. Blood transfusion was also carried out. She suffered from similar attack for three times in two months. So, her peripheral venous assess became difficult.

She decided to undergo chemo-port insertion.

After the chemo-port was used for four months, the insertion site was accidentally injured while the patient was being moved. Haematoma developed and the chemo-port extruded.

Another chemo-port was inserted on left side and the old one was removed. (Figure 5)

Method

The polyurethane-silicone chemo-port catheter was put into the internal jugular vein in the operating room by the surgeon on the right side under local anesthesia. A single chamber chemo-port with a 9.6 F polyurethane catheter was used. The needle was inserted into right internal jugular vein under ultrasound guidance and the guidewire was put into the vein. A dilator and peel-away sheath were threaded over the guidewire, and polyurethane catheter was placed using Seldinger's technique up-to the pre-measured length.

A separate incision of size approximately 3 cm was made on the chest wall at the level of 2nd rib. A subcutaneous pocket was made for chemo-port chamber, and catheter brought out in this wound with the help of a tunneller. The length of the catheter was measured at 0.5 cm below the sterno-manubrial joint. The catheter was attached with the chemo-port and checked the backflow. Heparinized saline was used to flush the port and catheter. The skin was sutured back. (Figure 2)

Position of catheter was checked with chest X-ray. (Figure 1)

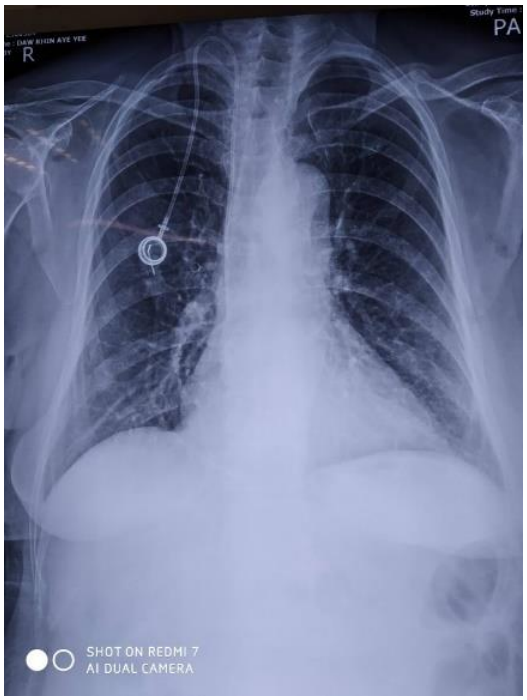

Figure (1) chemo-port site shown in chest X-ray

Figure (2) Post-op photo of chemo-port insertion

Huber's needle was put seven days after insertion. (Figure 3) Total parenteral nutrition and injections were given via the chemo-port.

Figure (3) Huber needle inserted

There were no serious complications in the post-op period. (Figure 4)

The patient received nutrition via the chemo-port and her well-being improved. One month later she accidentally injured the site of chemo-port and haematoma occurred. The chemo-port needed removal and another chemo-port was inserted on left side. (Figure 5)

She got proper nutrition and palliative care.

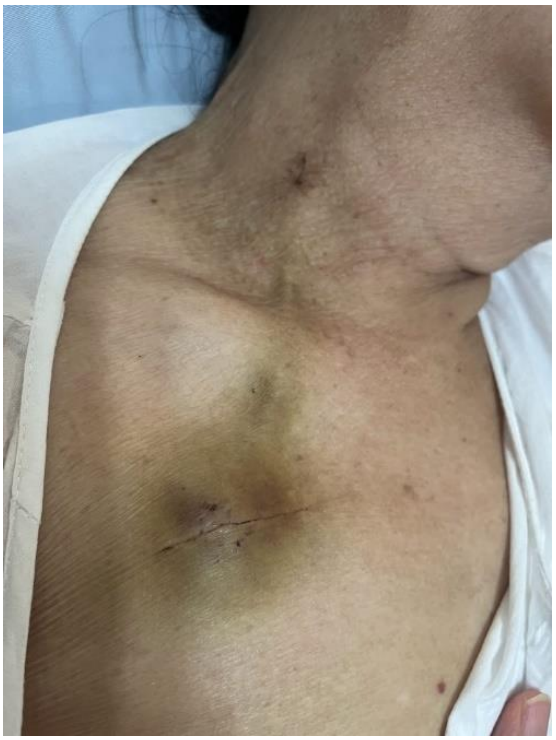

Figure (4) Post-op two weeks of chemo-port

Figure (5) Chemo-port inserted on left side

Discussion

Many patients prefer peripheral cannula for chemotherapy rather than chemo-port due to financial reasons. The difficulty in finding the peripheral veins for cannulation is related to the number of chemotherapy cycles given to the patient. Placement of chemo-port and its maintenance requires a dedicated team approach along with patient education and follow-up. Prompt identification of complications and proper management is necessary to avoid morbidity and mortality associated with its use.

References

1. Vescia S, Baumgartner AK, Jacobs VR, Kiechle-Bahat M, Rody A, Loibl S, Harbeck N. Management of venous port systems in oncology: a review of current evidence. Ann Oncol. 2008;19(1):9–15. doi: 10.1093/annonc/mdm272.

2. Safdar N, Maki DG. Risk of catheter-related bloodstream infection with peripherally inserted central venous catheters used in hospitalized patients. Chest. 2005;128:489–495. doi: 10.1378/chest.128.2.489.

3. Shah T, Vijay DG, Shah N, Patel B, Patel S, Khant N, Gothwal K. Chemoport Insertion-Less Is More. Indian J Surg Oncol. 2021 Mar;12(1):139-145. doi: 10.1007/s13193-020-01265-6. Epub 2021 Jan 7. PMID: 33814844; PMCID: PMC7960807.

4. Lee AY. Cancer and thromboembolic disease: pathogenic mechanisms. Cancer Treat Rev. 2002;28:137–140. doi: 10.1016/S0305-7372(02)00044-0.

5. Verso M, Agnelli G. Venous thromboembolism associated with long-term use of central venous catheters in cancer patients. J Clin Oncol. 2003;21:3665–3675. doi: 10.1200/JCO.2003.08.008.

6. Nakamura T, Sasaki J, Asari Y, Sato T, Torii S, Watanabe M. Complications after implantation of subcutaneous central venous ports (PowerPort®) Ann Med Surg. 2017;17:1–6. doi: 10.1016/j.amsu.2017.03.014.