Chemoport–Skin Erosion: Our Experience

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Abstract

Keywords

- chemoport
- totally implantable venous device
- skin erosion

Chemoports are totally implantable venous access devices, which are retained over long periods of time to facilitate chemotherapy administration. Skin erosion is a rare complication wherein there is breach in the skin overlying the septum. This study reports the author's experience of skin erosion in three cases. Ports were explanted in all cases. Skin incision for port placement should be placed away from the access site and repeated access at the same point must be avoided to lessen the incidence of skin erosions.

Chemoports are totally implantable venous access devices used to facilitate chemotherapy administration. Internal jugular veins and subclavian veins are the commonly used venous access for port placement.¹ These devices are usually retained over a period of 1 to 2 years or more after which the device is explanted. Some of the long-term complications include catheter embolism, catheter or port occlusion, catheter breakage, device rotation, and vascular thrombosis. One of the rare long-term complications of these devices is erosion of skin over the device. Usually the skin overlying the septum breaks down exposing the device in the subcutaneous space.^{1–3} This study reports the author's experience with skin erosion associated with chemoport.

Case Report

Case 1

A 45-year-old patient presented with ulceration over the chemoport implant area (► **Fig. 1**). This patient had carcinoma of the left breast for which she had undergone breast conservation surgery followed by chemotherapy and radiation. Chemoport was implanted 11 months earlier through right subclavian access to facilitate chemotherapy administration. The port was placed over the right chest wall inferior to the vein access site and approximately 2 cm below the skin incision site. She had completed the course of chemotherapy but the port was planned to be retained at least for another 6 months since the patient was “triple negative.”

She had noticed small erosion in the skin around 10 days earlier. She did not have any systemic symptoms including fever or chills. She did not have any pain in the ulcerated area.

At presentation, there were no local or systemic signs of infection or inflammation.

The port was explanted through the same wound; edges freshened and wound closed. Postoperative recovery and wound healing were uneventful.

Case 2

Femoral port was inserted in a 65-year-old woman with bilateral breast cancer through the left femoral vein approach. 15 months later, patient had pain and scab at the port site. On cleaning the scab, the entire septum was visible through the skin erosion. The port was then explanted.

Case 3

A 12-year-old boy with Hodgkin lymphoma had undergone chemoport implantation elsewhere 18 months back. Patient presented with persistent scab over the port site for the last 2 weeks (► **Fig. 2**). On cleaning the area and after removal of the scab, the skin erosion exposing the port was seen (► **Fig. 3**). The port was then explanted.

Discussion

Chemoport is a useful tool for long-term venous access. The port is placed under the skin while the catheter is placed at the atrial–superior venacaval junction. One of the rare long-term complications is the erosion of the skin overlying the port. The estimated incidence is 2 to 10%² but recent reports suggest much lower incidence of 1%.⁴ The author's incidence is 2 cases in 143 total port insertions which would mean an

Fig. 1 Erosion of the skin over the port (part of the port is seen). The dark colored septum is just seen at the lower end of the ulceration. No clinical signs of inflammation or infection are evident. Note the vein access site (black arrow) and skin incision to place the port (white arrow).

Fig. 2 Scab is seen over the port. The vein puncture site and the skin incision are away from the port.

Fig. 3 Skin erosion is evident and port septum is well seen after the scab is removed.

incidence of less than 2%. The third case of skin erosion was that of port insertion elsewhere. Skin erosion is a gradual process, which allows bacteria to colonize resulting in infection. This could present systemically as fever with chills and/or locally with purulent discharge or abscess. However, one patient had signs and symptoms of local infection while none had systemic symptoms. Such instances of erosion without infection have also been documented.⁴

Erosion can occur through the incision; especially if the incision is placed over the thick part of the septum.¹ In all cases, a pocket was created and port was placed with access site more than 2.5 cm below the incision line. The bra strap could rub over the port skin, more so when there is a large size port. Repeated abrasions over the area could result in skin erosion. Although, the first patient denied wearing a tight bra strap, it would still be important to place the port away from bra strap. Women in India tie a tight thin belt like strip on the waist to hold the undergarment in place. Although the port was placed below this level, repeated abrasion of this belt like strip or the undergarment could not be ruled out as a possible cause for skin erosion. One other reason proposed for erosion is the access of the port at the same spot each time to make the access less painful.¹ Over a period of time this area would get denuded and covered with a scab under which infection occurs resulting in erosion. Although direct relationship could not be established, there is a report of three patients on antivascular endothelial growth factor having skin erosion over the port.⁴ The third case would probably fit this theory. This patient had completed chemotherapy without growth factor inhibitors 5 months earlier but continued to have regular “flush” of the port with heparinized saline. Treatment almost always includes removal of the port.¹ The ports in all patients were explanted when skin erosion was noticed.

Conclusions

Port erosion is a rare but definite complication in those who have indwelling ports for longer periods of time. At insertion, the skin incision must be placed well away from the port access site (over the septum). The port access should be at different points over the septum and repetitive punctures over the same site are better avoided. Ports must be explanted when skin erosion is noticed as they are considered infected even when no signs are evident.

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