

Fracture and Migration of Port Catheter: Rare Complication

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DOI: [10.36347/sasjm.2022.v08i03.002](https://doi.org/10.36347/sasjm.2022.v08i03.002)

| Received: 20.01.2022 | Accepted: 28.02.2022 | Published: 10.03.2022

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Abstract

Case Report

Introduction: TIVAPs (totally implanted venous access ports) are indicated for patients who are undergoing chemotherapy, total parenteral nutrition, or long-term antibiotic therapy. However, the fracture and migration of a TIVAP catheter into pulmonary arteries internal jugular vein is an extremely unusual but potentially serious consequence [1]. **Case report:** We report a case indentified with a spontaneous fracture and migration of catheter of a TIVAP into the right pulmonary arteriae after chemotherapy for gastric cancer and successfully retrieved by percutaneous endovascular approach. **Conclusion:** We reviewed the literature as well as the most recent guidelines and recommendations in order to describe the clinico-radiological aspects, potential causes, and methods for recognizing, managing, and preventing this problem.

Keywords: TIVAPs, Fracture, chemotherapy, gastric cancer.

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INTRODUCTION

The use of totally implantable venous access ports (TIVAPs) has become routine in the management of patients suffering from cancer as they facilitate administration of anti-cancer agents, blood products, antibiotics, and parenteral nutrition [1].

Review of the literature shows that the implantation and long-term use of TIVAPs are associated with mechanical, thrombotic, and infectious complications. But, among the late mechanical complications, lesions of the catheter wall represent a rare but potentially severe condition, whose natural history can vary from a partial rupture or catheter malfunction to a complete catheter fracture with embolization of the ruptured fragment. So we present a case of fracture and migration of port catheter in the right pulmonary arteriae [2].

CASE PRESENTATION

A 36-year-old was diagnosed with a history of gastric cancer, underwent chemotherapy for 4 months through a Port-A-Cath placed in the left subclavian vein in 2014, after the patient underwent a total gastrectomy with lymph node dissection. Then he received adjuvant chemotherapy.

In 2020 the catheter was incompletely removed via a transcutaneous approach, the catheter was founded broken. The distal extremity was missing.

Even on thoracoscopic radiography, the fragment was undetectable. The physical examination did not show any signs of venous obstruction or other issues.

In a routine 2021 chest scan, the catheter was found fractured and had embolized to the right pulmonary arteriae.

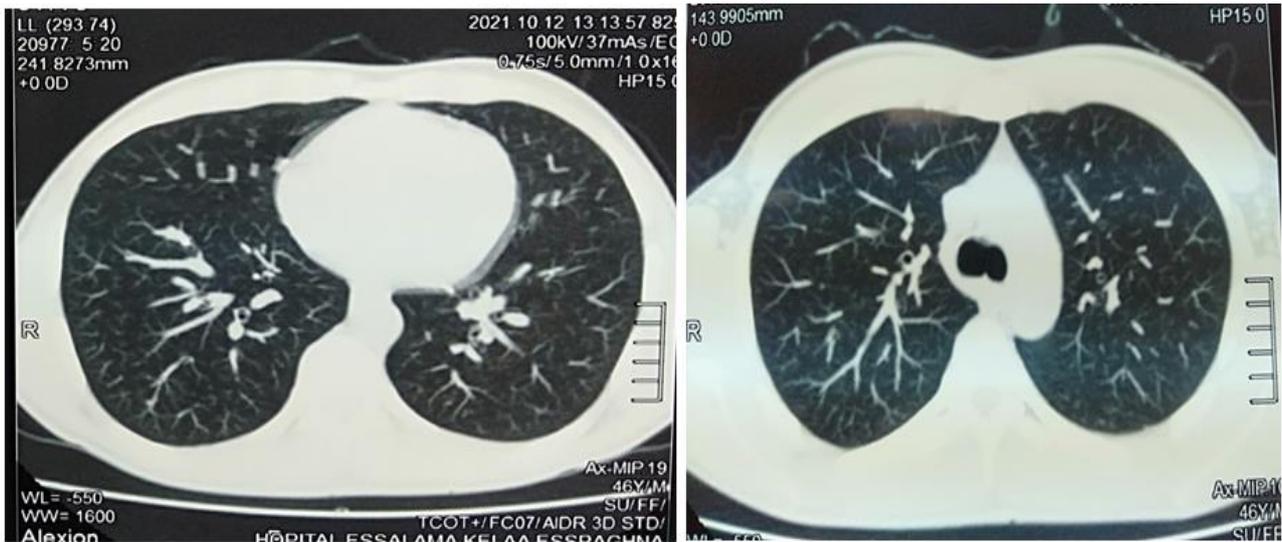


Figure 1: Chest scan showing fracture of Port-A-Cath in the right pulmonary arteriae

The patient was then referred to the department of Cardiovascular Surgery center for percutaneous extraction attempt. The procedure was performed through the right femoral vein with a 6F sheath by a percutaneous puncture under local anesthesia. The fractured catheter fragment was subsequently caught and moved into the right femoral vein using a goose neck snare. And then, the fractured catheter fragment was removed successfully with venous sheath.

There was no complication during these procedures.



Figure 2: Successful extraction of the fragments

DISCUSSION

Totally implantable venous access ports have considerably improved the management of patients suffering from cancer by facilitating the administration

of chemotherapy, blood transfusions, antibiotics, parenteral nutrition and analgesics, etc [3].

The installation of these instruments, on the other hand, is linked to both early and late complications from the implantation procedure and long-term use. One of the late complications is fracture and migration [4].

After TIVAP implantation, a catheter fracture with subsequent migration is a rare complication. However, if the catheter ruptures, the consequences could be severe [5].

Embolization of the pulmonary arteries is frequently asymptomatic, as in our case. However, embolization can induce symptoms, and even life-threatening complications, with a mortality rate of up to 1.8% (significantly lower with recent more flexible and resilient catheters). Also, Port-A-Cath is made of soft, silicone materials and may potentially act as a core for thrombosis. Because of that, guidelines suggest that unused ports should be removed as soon as possible to prevent complications [6].

Techniques for retrieving embolized catheters range from percutaneous to surgical. Thoracotomy and associated complications, on the other hand, have made surgical removal a last resort. Indeed, given the procedure's high success rate and low risk, percutaneous interventional procedures are now the preferred method for removing foreign bodies in the vast majority of instances [1].

CONCLUSION

For a TIVAP, we need to follow up with chest radiography on a frequent basis and manage with the heparin lock flush solution. We must also remove a TIVAP if it is no longer useful after a scheduled treatment. If a TIVAP's cracked catheter is discovered,

the fragmented piece must be evaluated carefully. After that, if possible, an endovascular method should be used to remove a fragment to avoid further difficulties.

Declaration of Conflicting Interests: The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

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