

# Transcatheter Embolization of Systemic Arterial Supply in Scimitar Syndrome: A Case Report and Review of the Literature

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## Abstract

Scimitar syndrome is a rare congenital anomaly characterized by anomalous pulmonary venous return, hypoplasia of the right lung, and systemic arterial supply to the affected lung. We report a case of scimitar syndrome with anomalous pulmonary venous return, atrial septal defect, and systemic arterial supply from the abdominal aorta, successfully treated with transcatheter embolization using a vascular plug. We discuss the clinical presentation, diagnostic approach, and treatment options for this complex condition.

### \*Case Report\*

A 7- days -old newborn presented with symptoms of respiratory distress (difficulty feeding) and recurrent pulmonary infections. Imaging studies revealed scimitar syndrome with anomalous pulmonary venous return to the superiora vena cava, atrial septal defect, and systemic arterial supply to the right lung from the abdominal aorta. Cardiac catheterization confirmed the diagnosis and allowed for transcatheter embolization of the systemic arterial supply using a vascular plug.

### \*Discussion\*

Scimitar syndrome is a rare congenital anomaly that requires a multidisciplinary approach for diagnosis and treatment. The anomalous pulmonary venous return and systemic arterial supply can lead to significant morbidity and mortality if left untreated. Transcatheter embolization is a minimally invasive treatment option that can effectively reduce symptoms and improve quality of life.

**Kew Words:** temporary cardiac pacing; percutaneous coronary intervention

## Introduction

Scimitar syndrome is a rare congenital anomaly characterized by anomalous pulmonary venous return, hypoplasia of the right lung, and a systemic arterial supply to the affected lung. We present a case of scimitar syndrome in a 7-day-old newborn who presented with feeding difficulties and respiratory distress. Given the unexplained pulmonary hyper flow despite partial anomalous pulmonary venous return, we decided to close the sequestering arteries to stabilize the patient and plan future surgery under better conditions.

## Case Report

A 7-day-old newborn was admitted to our department with feeding difficulties and respiratory distress. Clinical examination revealed increased respiratory rate and signs of respiratory distress. Medical imaging showed anomalous pulmonary venous return and a systemic arterial supply to the affected lung.

Given the unexplained pulmonary hyperflow despite partial anomalous pulmonary venous return, we decided to close the sequestering arteries to stabilize the patient and plan future surgery under better conditions.

## Discussion

Scimitar syndrome is a complex condition that requires a multidisciplinary approach for management. The presence of a systemic arterial supply can contribute to increased pulmonary blood flow and potential complications [1]. Transcatheter embolization is a minimally invasive technique that can be used to close sequestering arteries and reduce symptoms [2].

According to a study published in the Journal of Vascular and Interventional Radiology, transcatheter embolization is an effective treatment option for patients with scimitar syndrome [2]. Another study published in the European Journal of Anatomy showed that scimitar syndrome can be diagnosed early through medical imaging [1].

A 2.5-year-old patient was featured in an article with successful closure of sequestering artery using an ampltzer piccolo device [3]

## Management

The management of scimitar syndrome involves a multidisciplinary approach, including:

- Transcatheter embolization of sequestering arteries
- Supportive care for respiratory distress
- Monitoring of cardiac function

## Conclusion

Scimitar syndrome is a complex condition that requires early diagnosis and treatment. Transcatheter embolization is a minimally invasive technique that can be used to close sequestering arteries and reduce symptoms. Further studies are needed to determine the long-term

outcomes and potential complications of this approach of patients with scimitar syndrome. A multidisciplinary team approach is essential for the diagnosis and treatment of this complex condition.

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