

# Giant sacrococcygeal teratoma embolization

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## Abstract

Resection of giant sacrococcygeal teratoma with high-vasculature in newborns can be a fatal procedure due to massive bleeding of the tumor. Endovascular embolization of the arteries that supply the tumor may lead to minimal blood loss. We present a case of giant high-vascular sacrococcygeal teratoma type-1 that was embolized in an infant born at 35 weeks gestation. This procedure led to a safe, surgical resection with minimal bleeding: 12 ml.

**Key words:** Angiography; embolization; MRI; newborn; sacrococcygeal teratoma

## Introduction

Sacrococcygeal teratoma may be detected antenatally by physical examination and imaging.<sup>[1]</sup> When sacrococcygeal teratoma has a high vascular component and a diameter exceeding 10 cm, it has a high risk of rupture and consequently profuse bleeding before and especially during surgical resection.<sup>[2,3]</sup> We present a case of a giant high-vascular sacrococcygeal teratoma type-1 that was treated with preoperative endovascular embolization prior to its complete surgical resection.

## Case Report

A giant high-vascular sacrococcygeal teratoma type-1 was detected in a female fetus by prenatal ultrasound and magnetic resonance [Figure 1].<sup>[1]</sup> The patient with the giant sacrococcygeal teratoma (maximum diameter 15.5 cm) was delivered by cesarean birth at 35 weeks

gestation, with a weight of 3240 g [Figure 2]. Two hours later, through the left subclavian artery, the patient underwent abdominal aorta angiography. This confirmed the high-vascular tumor supplied by the middle sacral artery and distal vessels from the right internal iliac artery [Figure 3]. All these arteries were embolized distally with gelatin sponges. With the angiographic overlay technique, the embolization of the middle sacral artery was completed with a metallic pushable coil deployed proximally.<sup>[2,3]</sup> The final control demonstrated a successful embolization of the tumor [Figure 4]. Total procedure time was 55 min. The patient received a total of 20 ml of fluids and 6ml of non-ionic contrast medium of concentration of 300 mg/dl (maximum contrast medium dose 2 ml/kg). Consequently, the neonate was transferred from the angiographic suite to the surgical one. The resection of the giant sacrococcygeal teratoma was quite easy because the bleeding was really minimal: only 12 ml. Pathologic evaluation confirmed the teratomatous nature of the tumor.

## Conclusion

The feeding arteries of giant high-vascular sacrococcygeal teratoma of a newborn are perfectly identified by an angiography. Preoperative endovascular embolization of the feeding arteries is a safe and effective procedure that leads to a minimal blood loss during the tumor surgical resection.

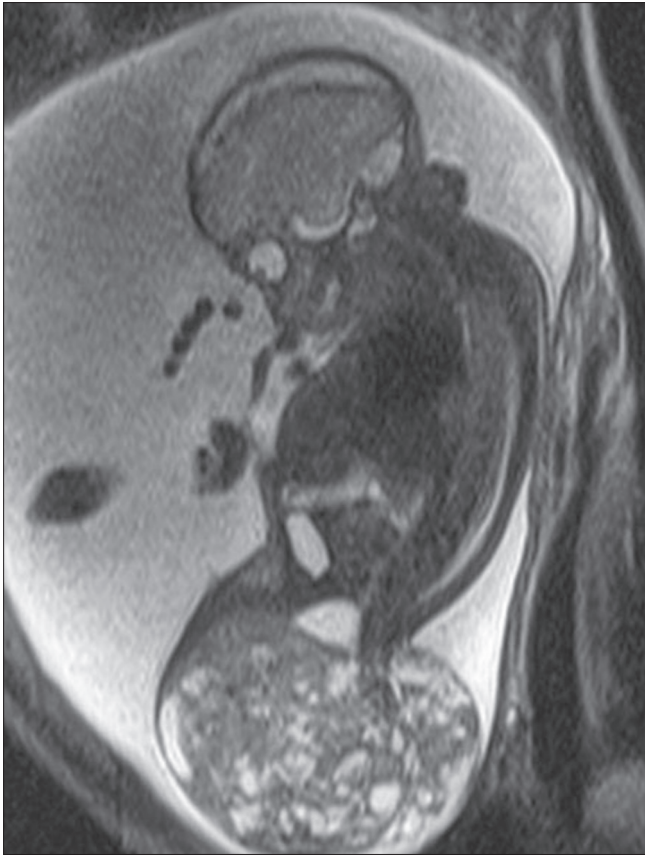
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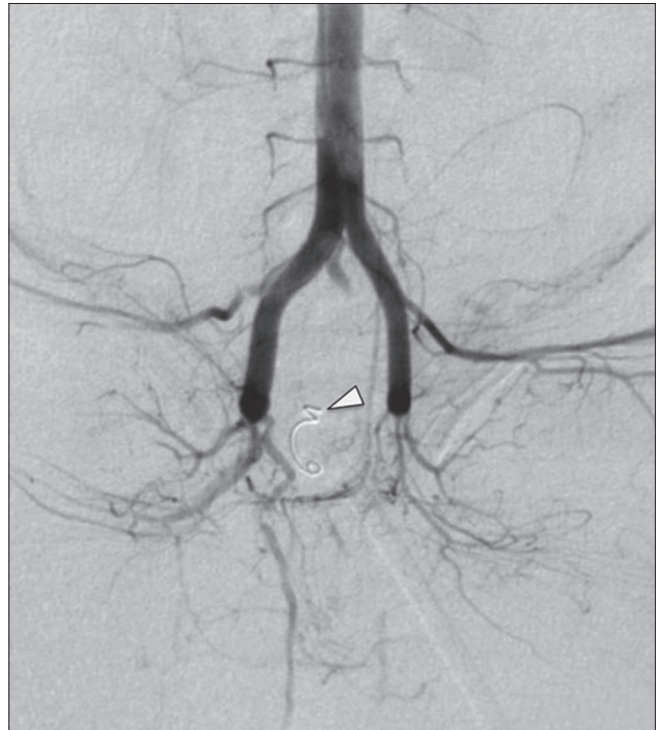
**Figure 1:** Sagittal T2-weighted MR image that demonstrates a large mass containing well-defined areas of varying signal intensity



**Figure 2:** Photo of the patient with the giant sacrococcygeal teratoma after birth



**Figure 3:** Abdominal aorta angiography that confirms the highly vascular nature of the mass with hypertrophy of the middle sacral artery (arrowhead) and distal vessels from the right internal iliac artery (arrows)



**Figure 4:** Post-embolization abdominal aorta angiography demonstrates the successful embolization of the feeding vessel of the mass. Note the shadow of the metallic coil deployed into the middle sacral artery (arrowhead)

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