



Exceptionally early diagnosis of fetal sacrococcygeal teratoma in first trimester ultrasound

Tobias Spingler¹ · Cornelia Wiechers² · Justus Lieber³ · Karl Oliver Kagan¹

Received: 23 June 2022 / Accepted: 22 July 2022 / Published online: 3 August 2022
© The Author(s) 2022

A 33-year-old primigravida was referred to us at 13 weeks' gestation for a suspected fetal sacrococcygeal teratoma (SCT). Our ultrasound examination revealed a solid mass protruding from the external surface of the fetal coccyx, which was consistent with an exophytic SCT. The largest diameter was 1.5 cm with increased vascular perfusion. The crown rump length was 84 mm, and the nuchal translucency thickness was 2.2 mm. The fetus showed no signs of volume overload. Due to the unusually early diagnosis of this lesion, the prognosis was uncertain. The couple decided to continue the pregnancy. At 23 weeks, the diameter of the SCT was 5 cm and it increased to 7 cm at 31 weeks. Up to this point, there were no signs of fetal cardiac dysfunction on ultrasound. However, at 31 weeks, polyhydramnios developed. An MRI at 34 weeks' gestation was consistent with an Altmann type II SCT with extra-fetal location composed of cystic and solid components. The size was 8×6×6 cm.

At 34 weeks, the umbilical artery pulsatility index increased above the 95th centile, the other Doppler parameters were normal. Furthermore, the patient developed premature contractions with shortening of the cervix. After the administration of corticosteroids, a primary cesarean section was performed. A viable preterm female infant was delivered with an APGAR of 8/7/9, umbilical artery pH of 7.32, and a birth weight of 2200 g. The entire SCT was resected on the second day of life by pediatric surgery. Pathology revealed a 12×9×3 cm immature, type I (Gonzalez-Crussi) SCT. The neonate was discharged after 13 days.

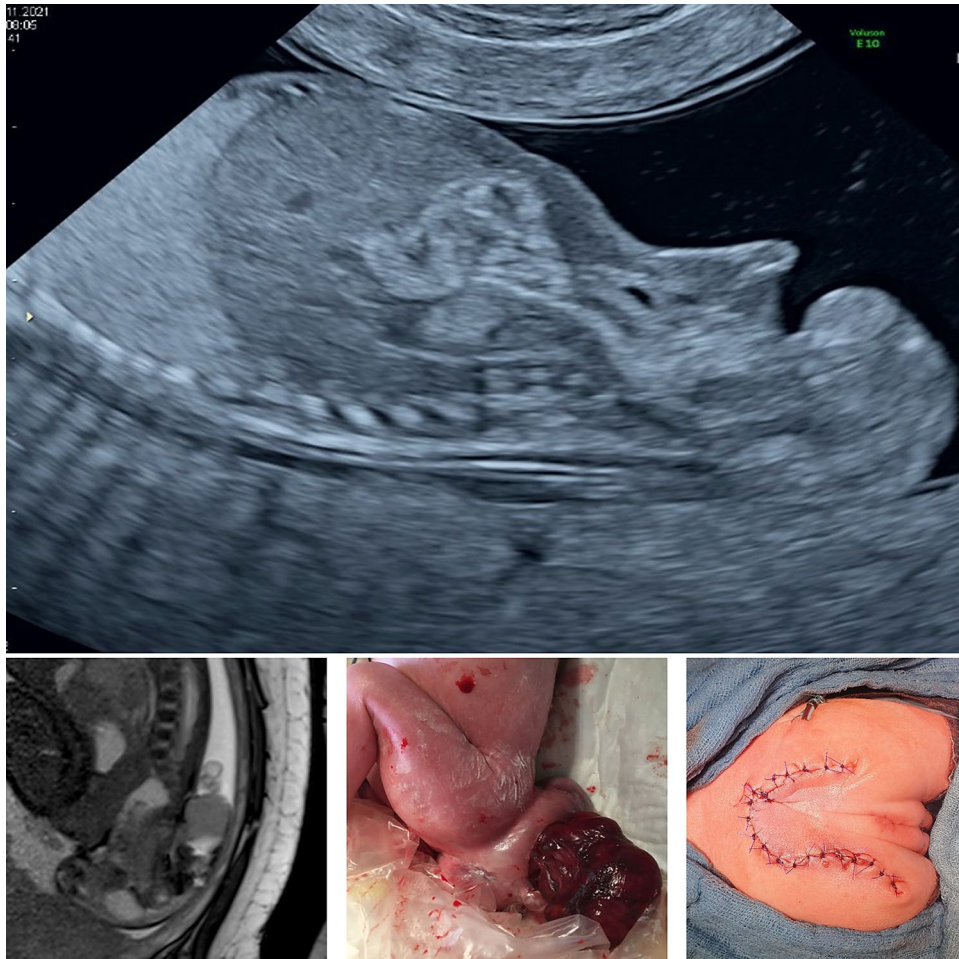
SCTs are the most common congenital tumor in newborns with an approximately 4:1-female-to-male prevalence. Those with an external location, very little to no internal component, and no signs of cardiac stress have a favorable prognosis [3]. A diagnosis in the first trimester is exceptionally rare [1, 2].

✉ Karl Oliver Kagan
KOKagan@gmx.de

¹ Department of Obstetrics and Gynaecology, University of Tuebingen, Calwerstrasse 7, 72076 Tübingen, Germany

² Department of Neonatology, University of Tuebingen, Calwerstrasse 7, 72076 Tübingen, Germany

³ Department of Pediatric Surgery and Pediatric Urology, University of Tuebingen, Hoppe-Seyler-Str. 3, 72076 Tübingen, Germany



Author contributions TS: Manuscript writing and editing. CW: Manuscript editing. JL: Manuscript editing. KOK: Project conception, Manuscript editing.

Funding Open Access funding enabled and organized by Projekt DEAL.

Declarations

Conflict of interest The authors have not disclosed any competing interests.

Ethics approval No ethical approval was required.

Consent to participate Written informed consent was obtained from the parents.

Consent to publish The authors affirm that the human research participants provided informed consent for publication of the images. All authors have agreed to publish this manuscript in *Archives in Obstetrics and Gynaecology*.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

References

1. Kagan KO, Sonek J, Kozłowski P (2022) Antenatal screening for chromosomal abnormalities. *Arch Gynecol Obstet* 305:825–835. <https://doi.org/10.1007/s00404-022-06477-5>
2. Kozłowski P, Burkhardt T, Gembruch U, Gonser M, Kähler C, Kagan KO, von Kaisenberg C, Klaritsch P, Merz E, Steiner

- H, Tercanli S, Vetter K, Schramm T (2019) DEGUM, ÖGUM, SGUM and FMF Germany recommendations for the implementation of first-trimester screening, detailed ultrasound, cell-free DNA screening and diagnostic procedures. *Ultraschall Med* 40:176–193
3. van Heurn LJ, Coumans ABC, Derikx JPM, Bekker MN, Bilardo KM, Duin LK, Knapen M, Pajkrt E, Sikkkel E, van Heurn LWE, Oepkes D (2021) Factors associated with poor outcome in fetuses prenatally diagnosed with sacrococcygeal teratoma. *Prenat Diagn* 41:1430–1438. <https://doi.org/10.1002/pd.6026>

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.