International Journal of Reproduction, Contraception, Obstetrics and Gynecology
Saidhandapani K et al. Int J Reprod Contracept Obstet Gynecol. 2026 Oct;15(10):4159-4161
www.ijrcog.org
pISSN 2320-1770 | eISSN 2320-1789

DOI: https://dx.doi.org/10.18203/2320-1770.ijrcog20263462

Case Report

Challenges in pregnancy of a patient with cardiac sarcoidosis on implantable cardioverter defibrillator: a case report

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Received: 11 July 2026
Revised: 31 August 2026
Accepted: 01 September 2026

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ABSTRACT

Cardiac sarcoidosis (CS) can present as ventricular tachycardia (VT) and cardiac arrest. Management of VT in CS is difficult and includes disease-specific agents, such as steroids, antiarrhythmic drugs (AADs), and implantation of an implantable cardioverter-defibrillator (ICD). With the advent of ICD technology in recent decades, patients with inherited or congenital cardiomyopathy have a greater chance of survival into adulthood. Women with ICDs in this group are now more likely to reach reproductive age. We report a case of a 24-year-old Primi, known case of CS with recurrent VT managed with ICD, immunosuppressants and steroids. Five months later, the patient became pregnant. A multidisciplinary approach was sought throughout her pregnancy with contribution from a cardiologist and rheumatologist. Along with cardiologist team and anaesthetist team our patient delivered an alive female baby at 36 weeks. Regular follow-up and timely delivery made this high-risk pregnancy successful.

Keywords: Cardiac sarcoidosis, VT, ADDs, ICD

INTRODUCTION

Sarcoidosis is an inflammatory disease which involves many organ systems. it causes non caseating granulomas which disrupts the normal function of the organs. CS involves the heart leading to unfavourable outcomes such as cardiac failure and multiple rhythmic abnormalities, it may be due to multisystem disease or can be presented as isolated cardiac involvement.[1]

Prognostically the multisystem involvement is better than the isolated one due to delayed diagnosis and resistance to the treatment by the isolated one. CS is rare and terrifying as it can cause cardiac block, arrythmias and sudden cardiac death. Early diagnosis and meticulous treatment approach is necessary to improve the prognosis of the disease.[2] Dagnosing CS in pregnancy and treating them is challenging.[3]

CASE REPORT

A 24-year-old primi, married since one year with regular cycles and BMI of 32 kg/m^2 presented to the Obstetrics outpatient department at 5 weeks of amenorrhea with UPT positivity. She had a significant medical history with H/O sudden palpitations at workplace followed by collapse. Immediate resuscitation measures provided and revived. similar events same day for 3 episodes diagnosed as recurrent VT and revived with CPR and cardioversion cardiogenic shock.

She was evaluated further, CAG done was normal. Cardiac MRI showed subepicardial delayed myocardial enhancement in anteroseptal segment at basal and mid ventricular level with focal enhancing nodular lesion? granuloma along subepicardial location and right side of basal interventricular septum with right paratracheal lymphadenopathy.

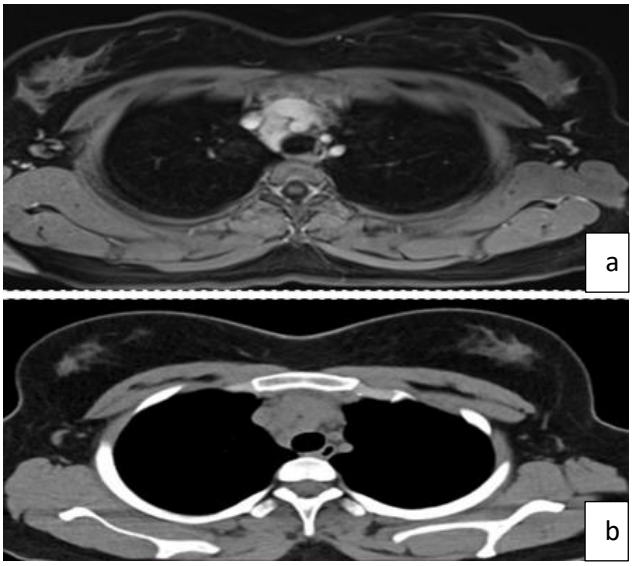

Figure 1 (a and b): Cardiac MRI pictures.

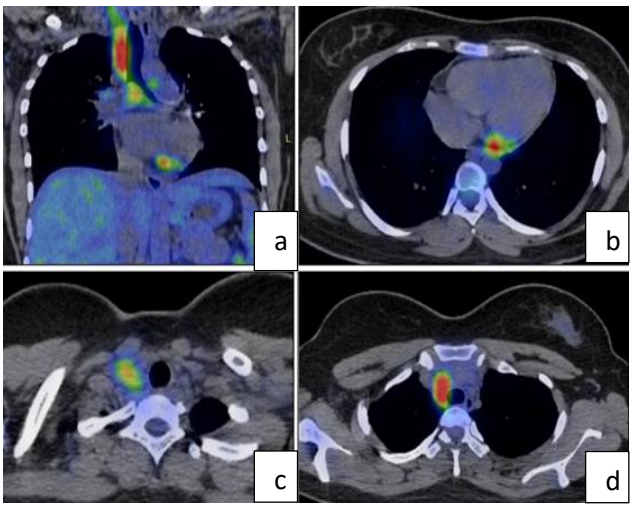

Figure 2 (a-d): Cardiac pet scan.

Above picture showing mild hypoperfusion in the mild and basal anteroseptal segments of left ventricular myocardium. Focal metabolically active pathology in basal anteroseptal segments of left ventricular myocardium extending along the root of aorta. Metabolically active ill-defined nodular pericardial thickening along the anterior aspects of left ventricle. Metabolically active enlarged and prominent right level 6 cervical and supraclavicular, mediastinal and right hilar nodes-suggested HPE correlation. Non-insulin mediated cardiac PETCT scan and 99m Tc-MIBI gated perfusion SPECT features suggestive of focal areas of inflammation in basal anteroseptal segment of left ventricular myocardium with decreased perfusion in mid and basal anteroseptal segments, pericardium lesions, right cervical, mediastinal and hilar lymphadenopathy.

Biopsy of right supra clavicular lymph node-non caseating granulomatous lymphadenitis with tiny central eosinophilic fibrinoid necrotic material and diagnosed as cardiac and extra-CS.

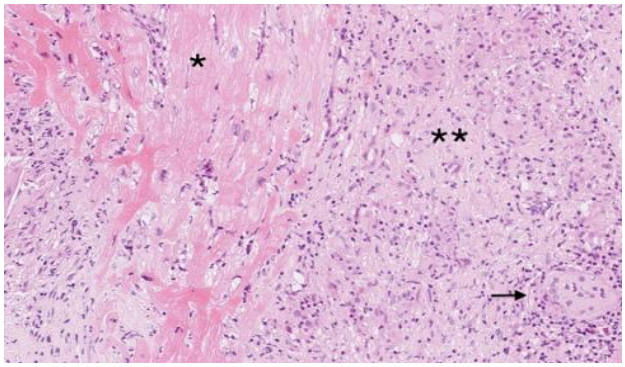

Figure 3: HPE showing non caseating granulomatous lymphadenitis.

Intracardiac defibrillator (ICD) placed and on treatment for the same since then with Tab. Amiodarone, Tab. Metoprolol once a day. Patient was counselled not to get pregnant for one year but five months later, the patient conceived spontaneously came to our OPD with UPT positivity at five weeks of gestation. She was counselled for medical termination of pregnancy, after cardiologist and rheumatologist opinions but patient wanted to continue the pregnancy after explaining the risks and complications. Hence, Tab. Amiodarone was stopped immediately after cardiologist opinion.

In the first trimester, Tab. Folic acid started after confirmation of pregnancy. A multidisciplinary approach was sought throughout her pregnancy with contribution from cardiologists and rheumatologist. She was started on steroids (Tab. Prednisolone) since 5 weeks. Tab. Aspirin 75 mg started at 13 weeks of gestation. Level 1 scan with first trimester screening for aneuploidies was normal. In second trimester, anomaly scan normal. OGTT normal. Patient had H1N1 infection at 24 weeks, treated with Tab. Oseltamivir 75 mg bd for 7 days. Serial growth scans done every four weeks. Monthly maternal ECHO done was normal. In third trimester, patient had left sided lower backache at 32 weeks. On evaluation, USG showed Right kidney microlith for which conservative management was done after specialist opinion. Patient had abdominal pain with discharge per vagina. Per speculum showed curdy white discharge and diagnosed as vaginal candidiasis treated with clotrimoxazole+clindamycin vaginal pessary. Patient was admitted and steroids given for fetal lung maturation.

Patient had complaints of palpitations at 36 weeks. In view of tachycardia and palpitations, patient was planned for elective LSCS the very next day. Tab. metolar was changed to T. Sotalol 40 mg BD and Tab. Aspirin was stopped. With cardiologists anaesthetists and obstetricians fully prepared as a team, under stress dose steroids (Inj. Hydrocortisone 100 mg) given one hour prior to surgery and ICD settings reprogrammed in OT. An alive term female baby was delivered by Lower segment caesarean section. Baby cried immediately after birth and there were no untoward events during the entire surgery and during post operative period, when patient was under close monitoring.

ICD settings reprogrammed in OT after surgery. Post procedure patient was monitored in cardiac ICU for 48 hours, IV antibiotics was given for three days. Inj. Clexane 0.6 ml OD for 3 days, on POD 1 cardiologist advised to continue T. Metolar XL 25 md BD, Tab. Azathioprine 50 mg BD, Tab. Prednisolone 20 mg OD. CBD removed on POD-2. on POD-8 both baby and mother was stable. Regular follow-up and timely delivery made this highrisk pregnancy successful. However, this pregnancy represents a challenge for clinicians, as no guidelines for the treatment of pregnant women with an ICD are currently available. Consequently, careful risk assessment with individual risk evaluation and close follow ups with interdisciplinary team involvement is recommended in pregnancy of ICD carriers.

DISCUSSION

Recent advancements emphasize that early and precise characterization of CS is paramount for initiating life-saving anti-inflammatory therapy and averting adverse outcomes. Advanced in vivo cardiovascular molecular imaging now plays a vital role in identifying active inflammatory pathways and scar tissue, allowing clinicians to make highly targeted, precision-medicine decisions rather than relying solely on conventional echocardiography. In the provided case, the proactive use of cardiac MRI and PET scans successfully isolated focal active granulomatous inflammation, directly guiding the deployment of a tailored steroid and immunosuppressive regimen. Treatment is with Corticosteroids as first line, methotrexate, azathioprine, or TNFα inhibitors are considered for refractory disease. Arrhythmia management is with ICD for high-risk patients; catheter ablation is considered post-inflammation. Multidisciplinary approach with coordination among cardiology, pulmonology, radiology and rheumatology experts is critical in diagnosis and management of CS (Linder and Morello et al).[4]

Therapeutically, managing arrhythmias in CS requires aggressive pharmacological intervention. Because standard agents like amiodarone carry severe teratogenic risks, they must be immediately discontinued upon conception. The successful transition of this patient to pregnancy-compatible alternatives such as sotalol and beta-blockers combined with closely monitored immunosuppressants highlights the necessity of balancing maternal arrhythmia suppression with fetal safety (Roelas et al).[5]

Mitigating the risk of sudden cardiac death via an ICD is a cornerstone of CS management. Navigating ICD presence during delivery demands a strictly synchronized multidisciplinary approach involving cardiology, rheumatology, obstetrics, and anesthesiology. Perioperative device management during the lower segment Caesarean section-including precise intraoperative ICD reprogramming and stress-dose steroid coverage-is critical to prevent inappropriate shocks triggered by maternal tachycardia or surgical electromagnetic interference. Ultimately, continuous surveillance, rapid pharmacological adaptation, and robust cross-specialty coordination are imperative to safely guide high-risk ICD carriers through pregnancy (Castleman et al).[6]

CONCLUSION

Overall, ICDs are safe in pregnancy and there is no evidence from our data that women carrying ICDs are at any greater risk of developing adverse complications during pregnancy compared with the background population. Pregnancy can worsen some cardiac conditions; however, these complications are entirely attributable to the underlying cardiac conditions and not on the presence of an ICD. ICD carrier parturients require a careful medical follow up and a multidisciplinary management, in order to avoid some complications that could alter the maternal and fetal prognosis.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Hussain K, Shetty M. Cardiac Sarcoidosis. In: StatPearls. Treasure Island (FL): StatPearls Publishing; 2026.
2. Alhareth, Dunia, Ghazawi, Alaaeddine El, Ajami, Sara, Saifi, Zyad, Refaat, Marwan, Latest Management of Cardiac Sarcoidosis: A Comprehensive Review, Cardiology Research and Pract. 2026;4913082:11.
3. Yoshii T, Kanzaki H, Aoki-Kamiya C, Izumi C. Multi-modal treatment in a pregnant woman with untreated cardiac sarcoidosis complicated by cardiac dysfunction and ventricular arrhythmias: a case report and literature review. Eur Heart J Case Rep. 2024;8(3):ytae108.
4. Lindner JR, Morello M. *In Vivo* Cardiovascular Molecular Imaging: Contributions to Precision Medicine and Drug Development. Circulation. 2024;150;1885-97.
5. Roelas M, Whitaker J, Teelucksingh S, de Marvao A. Arrhythmia in pregnancy: Approaches to diagnosis and management. JRSM Cardiovasc Dis. 2025;14:20480040251391929.
6. Castleman J, Curtis S, Fox C, Lucy H, Lynn N, James G, et al. Cardiac implantable electronic devices in pregnancy: A position statement. BJOG. 2024;131(13):1739-46.

Cite this article as: Saidhandapani K, Banmathi. Challenges in pregnancy of a patient with cardiac sarcoidosis on implantable cardioverter-defibrillator-a case report. Int J Reprod Contracept Obstet Gynecol 2026;15:4159-61.