Medical Science

pISSN 2321–7359; eISSN 2321–7367

Monochorionic monoamniotic twin in Rh negative pregnancy: A case report

Rahul Agola[1], **Tanvi Chaurasia**[2], **Geeta Chaurasia**[3]

To Cite:
Agola R, Chaurasia T, Chaurasia G. Monochorionic monoamniotic twin in Rh negative pregnancy: A case report. *Medical Science* 2023; 27: e76ms2801.
doi: https://doi.org/10.54905/disssi/v27i132/e76ms2801

Authors' Affiliation:
[1]Post Graduate Resident, Department of Obstetrics and Gynaecology, Jawaharlal Nehru Medical College, Datta Meghe Institute of Medical Sciences (Deemed to be University), Wardha, Maharashtra, India
[2]Post Graduate Resident, Department of Orthopaedics, Jawaharlal Nehru medical college, Datta Meghe Institute of Medical Sciences (Deemed to be University), Wardha, Maharashtra, India
[3]Senior Consultant, Department of Obstetrics and Gynaecology, District hospital Chhatarpur (Madhya Pradesh), India

Peer-Review History
Received: 29 December 2022
Reviewed & Revised: 02/January/2023 to 21/January/2023
Accepted: 05 February 2023
Published: 08 February 2023

Peer-review Method
External peer-review was done through double-blind method.

URL: https://www.discoveryjournals.org/medicalscience

ABSTRACT

Although monoamniotic twin pregnancies are uncommon, early detection is critical because complications are much more common than in diamniotic or dichorionic twin pregnancies. Only approximately 70% of monoamniotic twins survive. Furthermore, the high prevalence of foetal anomalies (15%-25%), such as twin reversed arterial perfusion sequence and conjoined twinning, accounts for roughly half of all foetal deaths in these pregnancies. As a result, early anatomy screening during pregnancy's first trimester is advised. We present a case of a primigravida female with 35.3 weeks of gestation and a Rh-negative pregnancy who presented to the labour room with a fully dilated cervix and delivered twins, one foetus by breech presentation and another macerated twin. As a result, early detection, screening for foetal anomalies, monitoring for twin-twin transfusion syndrome, decisions about monitoring after viability and delivery timing and route are all critical and increased awareness is necessary, particularly in rural areas.

Keywords: Monoamniotic monochorionic twin, Rh negative pregnancy, twin-twin transfusion syndrome.

1. INTRODUCTION

Monoamniotic monochorionic twins (Mieghem et al., 2022) with Rh negative pregnancy are a rare but significant subset of twins who face unique and serious complications, putting them at the highest perinatal mortality risk of any twin gestation. Monoamniotic twins face the unique risk of cord entanglement, in addition to the risks that all twins face (prematurity, selective growth restriction), monochorionic twins face (twin-twin transfusion syndrome) and monozygotic twins face (congenital anomalies). Early anatomy screening during the first trimester of pregnancy is therefore suggested (Calì et al., 2018). Other causes of foetal death in these pregnancies include twin-twin transfusion syndrome, tight cord entanglement and acute hemodynamic imbalances brought on by the large placental vascular anastomoses. Twin pregnancies with Rh isoimmunised children are extremely rare. A variety of perinatal risks are connected to twin pregnancies. Rhesus isoimmunization raises the risks of such a compromised pregnancy. After viability, foetal surveillance can be increased to lower the risk of in utero death. Both inpatient

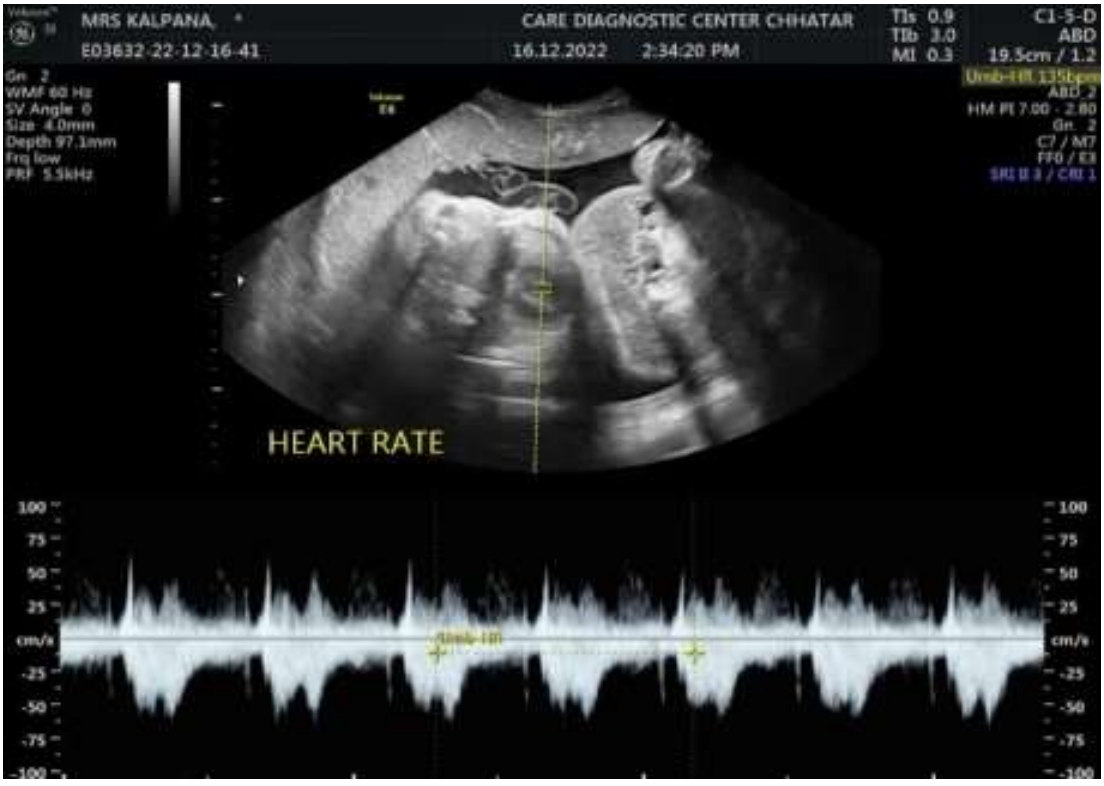
and outpatient monitoring are suitable. Monoamniotic twins should be delivered between 33 and 34 weeks of gestation if everything else is normal. Even though caesarean sections are usually performed in hospitals, some still support vaginal births. Finally, neonatal morbidity is high in monoamniotic twin pregnancies, which is primarily due to prematurity.

2. CASE DISCUSSION

A 24-year-old primigravida with 35.3 weeks gestational age in a rural area presented to the labour room with abdominal pain and vaginal leaking for 6 hours in active phase of labor. The patient's ultrasonography suggests a twin pregnancy with a macerated dead foetus and another live foetus, an average gestational age of 35.3 weeks, a baby weight of 2.5 kg, a breech presentation with adequate liquor and a placenta anterior grade 2 10 cm away from the os (Figure 2). Previous blood tests revealed a normal complete blood count and a B negative blood group. Rest blood tests were normal. The patient was afebrile on general examination, vital signs were normal and there was no pallor or oedema. According to the per abdomen examination, the uterus was larger than the period gestation, term size, contractions were present and one foetal heart sound was 140 bpm. On per vaginal examination, the cervix was fully dilated and effaced, with one foetus delivered and another macerated foetus delivered (Figure 1). Third stage of successfully managed with the placenta was delivered using control cord traction. The uterine tone was obtained. For the patient, the procedure went well. The patient was vitally stable after delivery. A female child weighing 2.5 kg was transferred to the mother's side and another macerated foetus was sent for histopathological examination. The patient and his or her family were well aware of the situation. The patient's indirect coombs test was negative, as was the baby's direct coombs test. The mother received prophylactic anti-D immunization to avoid complications in future pregnancies.

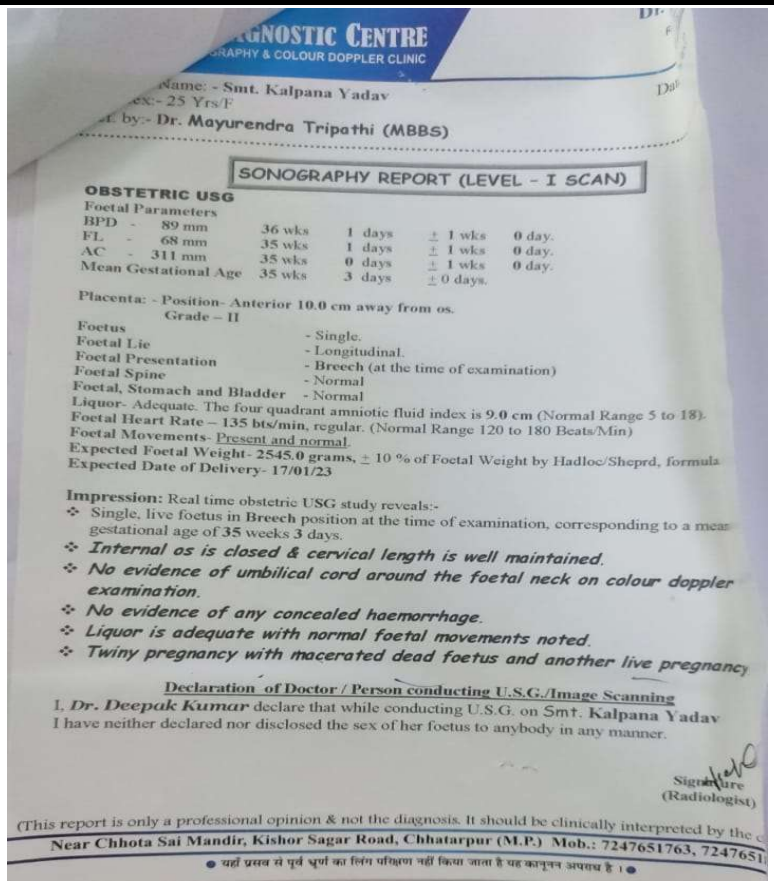
Figure 1 Twin delivery one foetus delivered by breech presentation and another macerated baby delivered


MRS KALPANA
ED3632-22-12-16-41
CARE DIAGNOSTIC CENTER CHHATAR
16.12.2022 2:33:40 PM
AC
BPD


MRS KALPANA
ED3632-22-12-16-41
CARE DIAGNOSTIC CENTER CHHATAR
16.12.2022 2:34:20 PM
HEART RATE
cm/s


MRS KALPANA,
E03632-22-12-16-41
CARE DIAGNOSTIC CENTER CHHATAR
16.12.2022 2:36:19 PM
MACERATED FOETUS


MRS KALPANA,
E03632-22-12-16-41
CARE DIAGNOSTIC CENTER CHHATAR
16.12.2022 2:37:19 PM
INTERTWIN MEMBRANE



GNOSTIC CENTRE
GRAPHY & COLOUR DOPPLER CLINIC

Name: - Smt. Kalpana Yadav
ex:- 25 Yrs/F
t. by:- Dr. Mayurendra Tripathi (MBBS)

SONOGRAPHY REPORT (LEVEL - I SCAN)

OBSTETRIC USG

Foetal Parameters

BPD -	89 mm	36 wks	1 days	± 1 wks	0 day.
FL -	68 mm	35 wks	1 days	± 1 wks	0 day.
AC -	311 mm	35 wks	0 days	± 1 wks	0 day.
Mean Gestational Age		35 wks	3 days	± 0 days.	

Placenta: - Position- Anterior 10.0 cm away from os.
Grade – II

Foetus - Single.
Foetal Lie - Longitudinal.
Foetal Presentation - Breech (at the time of examination)
Foetal Spine - Normal
Foetal, Stomach and Bladder - Normal
Liquor- Adequate. The four quadrant amniotic fluid index is 9.0 cm (Normal Range 5 to 18).
Foetal Heart Rate – 135 bts/min, regular. (Normal Range 120 to 180 Beats/Min)
Foetal Movements- Present and normal.
Expected Foetal Weight- 2545.0 grams, ± 10 % of Foetal Weight by Hadloc/Sheprd, formula
Expected Date of Delivery- 17/01/23

Impression: Real time obstetric USG study reveals:-
- Single, live foetus in Breech position at the time of examination, corresponding to a mean gestational age of 35 weeks 3 days.
- *Internal os is closed & cervical length is well maintained.*
- *No evidence of umbilical cord around the foetal neck on colour doppler examination.*
- *No evidence of any concealed haemorrhage.*
- *Liquor is adequate with normal foetal movements noted.*
- *Twiny pregnancy with macerated dead foetus and another live pregnancy*

Declaration of Doctor / Person conducting U.S.G./Image Scanning
I, *Dr. Deepak Kumar* declare that while conducting U.S.G. on Smt. Kalpana Yadav I have neither declared nor disclosed the sex of her foetus to anybody in any manner.

Signature
(Radiologist)

(This report is only a professional opinion & not the diagnosis. It should be clinically interpreted by the
Near Chhota Sai Mandir, Kishor Sagar Road, Chhatarpur (M.P.) Mob.: 7247651763, 7247651
● यहाँ प्रसव से पूर्व भ्रूण का लिंग परिक्षण नहीं किया जाता है यह कानूनन अपराध है ।●

Figure 2 Ultrasonography of the patient at 35.3 weeks of gestation

3. DISCUSSION

A rare type of monozygotic twinning (1% of all monozygotic twins) is monoamniotic monochorionic twinning with Rh negative pregnancy (Benirschke, 2013). They are identified by a single amnion and a single yolk sac, which are the result of an 8-day ovum division (Park et al., 2017). There might be two or just one embryo (conjoined twins). This type of twinning is distinguished by an increase in perinatal loss (10-15% in a recent series of prenatally recognized cases). Congenital anomalies, umbilical cord entanglement/accidents, preterm birth and intrauterine growth restriction are the main causes of this elevated perinatal mortality rate (Lin et al., 2007). The inability to distinguish a dividing membrane between the foetuses is the characteristic of ultrasound diagnosis that occur the most frequently. The main contributors to this elevated perinatal mortality rate are congenital anomalies, umbilical cord entanglement/accidents, preterm birth and intrauterine growth restriction. The inability to distinguish a dividing membrane between the foetuses is the most typical ultrasound diagnosis flaw. An accurate diagnosis is necessary for proper pregnancy management because there are some diagnostic pitfalls (oligohydramnios in one twin with a closely adhered membrane, for example). A Rhesus negative (Rh-negative) woman may produce antibodies while pregnant (Rh-positive) if her foetus is Rhesus positive. Infants who are Rh-positive run the risk of being harmed by these antibodies. We are describing a case of a 24-year-old primigravida who lives in a rural area and came to see us while she was in active labour with one live, breech-presented foetus and a macerated, vaginally-delivered foetus that was sent for histopathological analysis. Regular follow-ups and routine investigations failed, so there were no routine follow-ups conducted. An indirect Coombs test was conducted because the mother was Rh negative and additional blood tests also yielded negative results. Additionally negative was the foetal direct Coombs test. The patient received 300mcg of anti-D prophylaxis intramuscularly to avert future complications.

4. CONCLUSION

The importance of early detection, screening for foetal anomalies, monitoring for twin-twin transfusion syndrome, monitoring decisions after viability and timing and route of delivery cannot be overstated. As a result, proper screening and routine antenatal check-up and follow-up should be performed in such high-risk pregnancies to prevent mortality and morbidity, particularly in rural areas where a lack of follow-ups and knowledge leads to higher mortality and morbidity rates.

Acknowledgement

We thank all the participants who have contributed in this study.

Informed Consent

Informed consent was obtained from the patient.

Author's contribution

All the authors contributed equally to the case report.

Funding

This study has not received any external funding.

Conflict of interest

The authors declare that there is no conflict of interests.

Data and materials availability

All data sets collected during this study are available upon reasonable request from the corresponding author.

REFERENCES AND NOTES

1. Benirschke K. Monozygotic twinning. Surg Pathol Clin 2013; 6(1):27-32. doi: 10.1016/j.path.2012.11.006
2. Calì G, Timor-Tritsch IE, Palacios-Jaraquemada J, Monteaugudo A, Buca D, Forlani F, Familiari A, Scambia G, Acharya G, Antonio FD. Outcome of caesarean scar pregnancy managed expectantly: Systematic review and meta-analysis. Ultrasound Obstet Gynecol 2018; 51(2):169-175. doi: 10.1002/uog.17568
3. Lin CM, Chen CW, Chen PT, Lu TH, Li CY. Risks and causes of mortality among low-birth weight infants in childhood and adolescence. Paediatr Perinat Epidemiol 2007; 21(5):465-72. doi: 10.1111/j.1365-3016.2007.00853.x

4. Park SY, Chung JH, Han YJ, Lee SW, Kim MY. Prediction of amnionicity using the number of yolk sacs in monochorionic multifetal pregnancy. J Korean Med Sci 2017; 32(12):2016-2020. doi: 10.3346/jkms.2017.32.12.2016
5. Mieghem TV, Abbasi N, Shinar S, Keunen J, Seaward G, Windrim R, Ryan G. Monochorionic monoamniotic twin pregnancies. Am J Obstet Gynecol MFM 2022; 4(2S):100520. doi: 10.1016/j.ajogmf.2021.100520