

Audit of the multiple pregnancy antenatal pathway at a London teaching hospital

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Introduction

The prevalence of multiple pregnancies has been increasing in the last 20 years^(1,2). Complications such as post-partum haemorrhage, preterm birth, growth restriction, stillbirth, and neonatal death are higher compared to singleton pregnancies^(1,2). Due to this, increased monitoring and contact with healthcare professionals are needed⁽³⁾. **The aim of this audit is to review current practice and adherence to local and NICE standards for the antenatal and intrapartum care of women with multiple pregnancies.**

Methods

Demographic data, pregnancy related factors, adherence to local antenatal pathways for multiple pregnancies and outcome data were collected from women with both dichorionic diamniotic (DCDA) and monochorionic diamniotic (MCDA) twin pregnancies. Data was accessed through electronic patient records and hand-held antenatal maternity notes and descriptive analysis of the data were undertaken.

Summary of Main Recommendations

- Twin pregnancies are at a higher risk of anaemia as found in this audit. Routine anaemia screening and management should be improved.
- To meet the required NICE standards, a specialist multidisciplinary team is needed.
- Consider patient leaflet for patient groups for aspirin use.
- Further work includes collecting patient and staff (MW) feedback on the antenatal pathway.

Auditable Standards

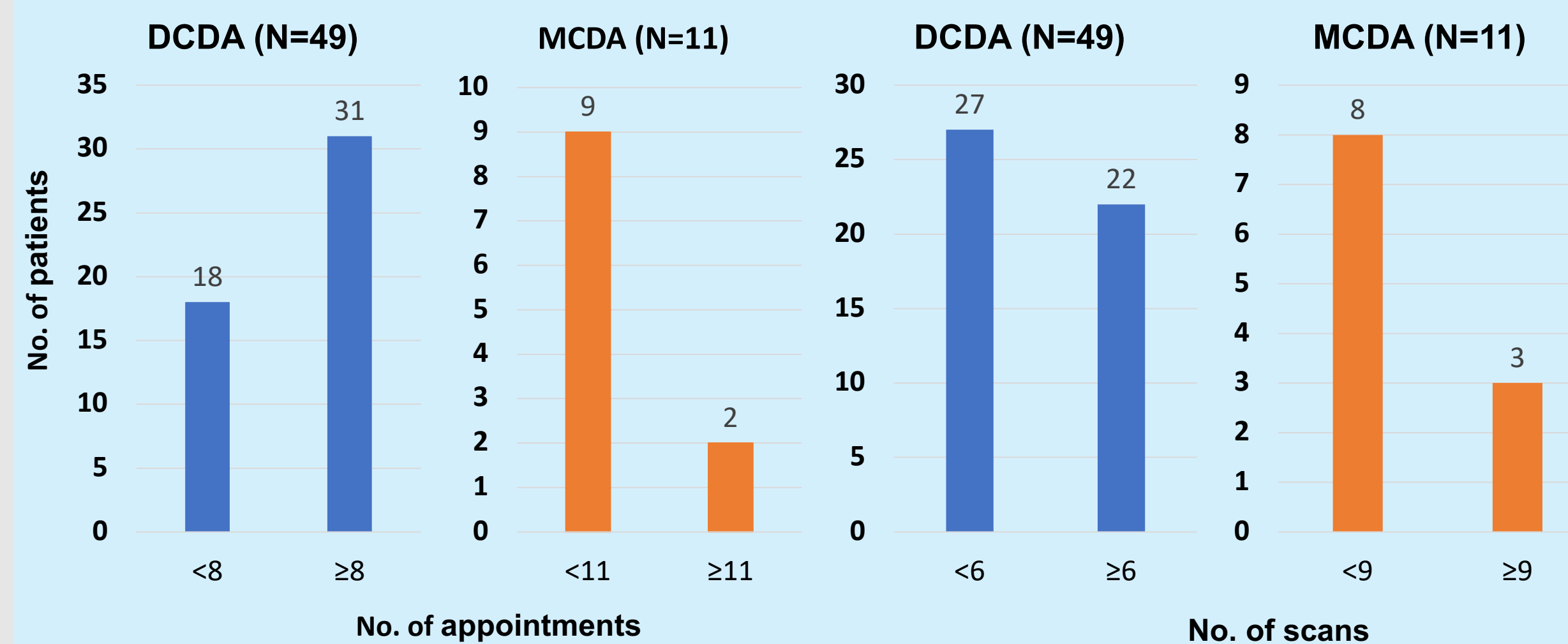
Standards met	Standards partially met	Service improvement needed
• Dating scan timing and labelling • Screening for chromosomal abnormalities • Screening for structural abnormalities • Scan frequency for monitoring of fetal growth in DCDA and MCDA • Planned birth for uncomplicated pregnancies at 'term'	• Anemia screening at 20-24 weeks • Appointment schedule (at least 2) with a specialist obstetrician • Screening for pre-eclampsia	• Weekly multiple birth clinics (started July 2022) • Multiple birth specialist midwife • Patient feedback of service • Improving screening for pre-eclampsia and aspirin prophylaxis

Table 1. A summary of the standards audited following the NICE guidelines for multiple pregnancies.

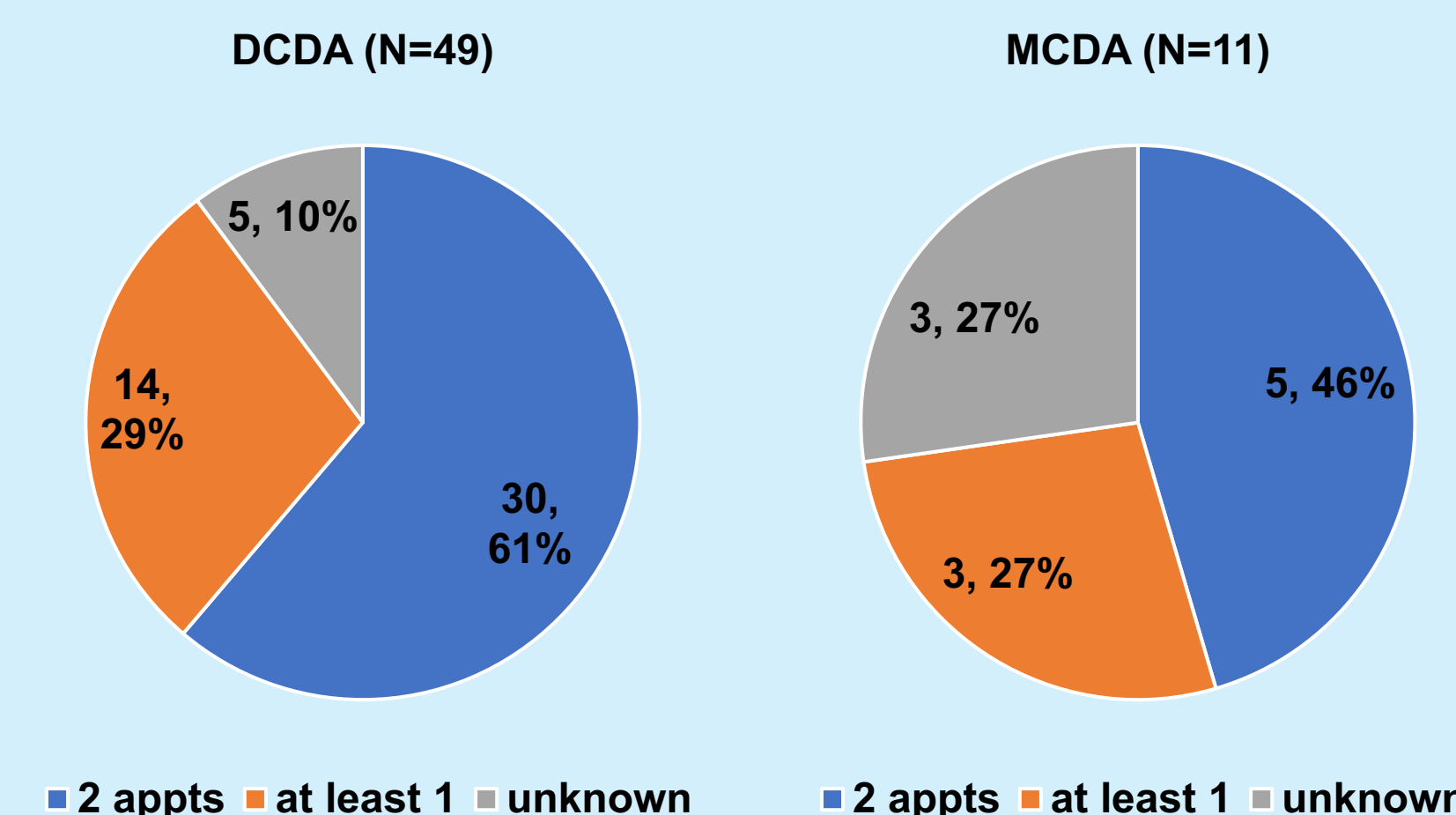
- A total of 60 multiple pregnancies were reviewed, with **49 DCDA** pregnancies and **11 MCDA** pregnancies.
- **Dating scans:** 93.9% (N=46) of DCDA and 90.9% (N=10) MCDA pregnancies had a dating scan at 11+2 – 14+1 gestation, with 98% chronicity determined for DCDA and 100% for MCDA.
- **Chromosomal abnormality screening:** Of those who have accepted screening (83.7 %, 81.8% MCDA), only **4.0%** had additional risks.
- **Anemia management:** 87.8% (N=43) of DCDA pregnancies had haemoglobin (Hb) concentrations checked at booking and at 20-24 weeks, with **18.6%** and **9.3%** of these respectively being anemic. 54.5% (N=6) and 72.7% (N=8) of MCDA pregnancies had Hb checked at booking and 20-24 weeks respectively, with **33.3%** and **37.5%** of these being anemic.

Auditable Standards

- **Pre-eclampsia prophylaxis:** **79.6%** (N=39) of DCDA pregnancies met the criteria for Aspirin. Of these **94.9%** (N=37) were documented to be taking Aspirin while 46.2% (N=18) were prescribed online. **61.1%** (N=11) were prescribed at 12-16 weeks and 38.9% (N=7) at >16 weeks gestation.
- 45.5% (N=5) of MCDA pregnancies met the criteria for aspirin. Of these, **100%** were documented to be taking Aspirin, with 40% (n=2) prescribed online. 50% were prescribed at 12-16 weeks and 50% prescribed >16 weeks.



Figures 1-2. Total number of appointments and scans for DCDA and MCDA pregnancies throughout their antenatal care. The NICE guidelines recommend at least 8 and 11 appointments for DCDA and MCDA pregnancies respectively and at least 6 and 9 scans for DCDA and MCDA pregnancies, respectively.



Figures 3. Percentage of antenatal appointments with a specialist obstetrician. The NICE guidelines recommend that at least 2 of the total antenatal appointment be with a multiple pregnancy specialist.

Pregnancy outcomes

- **93.9%** (N=46) and **90.9%** (N=10) of DCDA and MCDA pregnancies resulted in livebirths.
- **Gestation at birth:** **41%** (N=19) DCDA and **30%** (N=3) and MCDA pregnancies delivered at term, respectively.

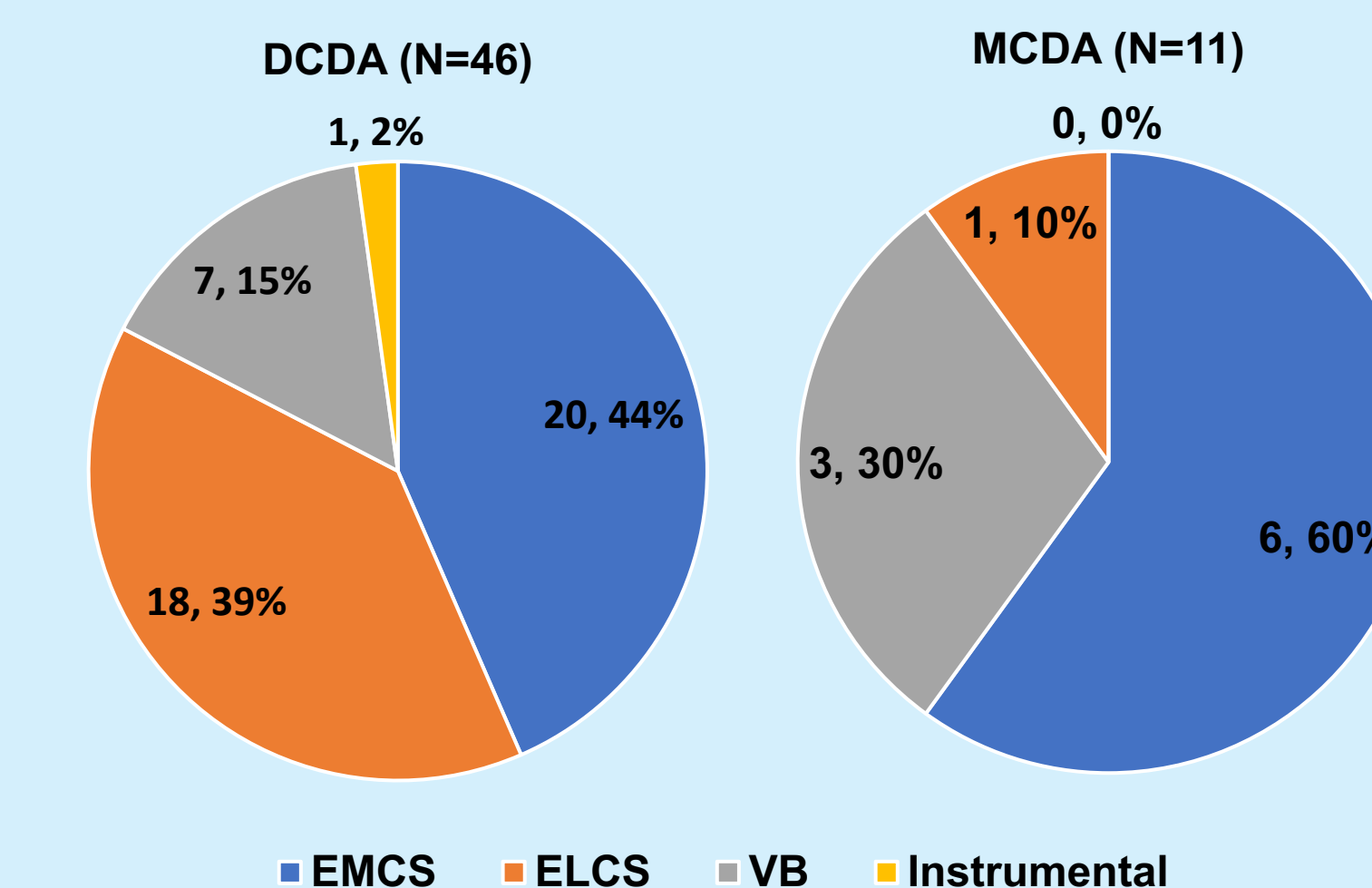


Figure 4. Percentage of modes of delivery. Reasons for emergency caesarean sections (EMCS) are multifactorial. The most common reason for elective lower segment caesarean section (ELCS) for both DCDA and MCDA pregnancies is maternal choice, accounting for 55% (N=10) and 100% (N=1) of ELCS, respectively, 2 of the 7 DCDA vaginal births (VB) and 1 of 3 MCDA vaginal births are assisted by induction of labour.

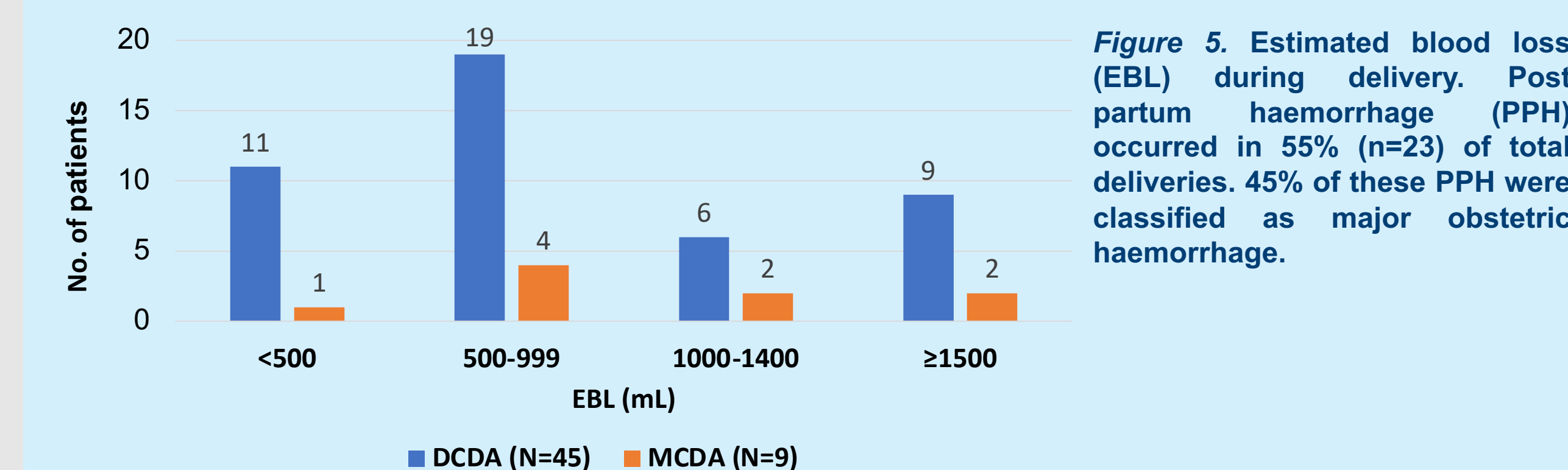


Figure 5. Estimated blood loss (EBL) during delivery. Post partum haemorrhage (PPH) occurred in 55% (n=23) of total deliveries. 45% of these PPH were classified as major obstetric haemorrhage.

- **Neonatal outcomes:** APGAR scores at term indicated healthy newborns with majority needing ward-based care only (74% DCDA, 33% MCDA).

References:

1. Twins Trust. Key statistics on multiple births [Internet]. [cited 2023 May 28]. Available from: <https://twinstrust.org/static/89af4d2a-49fe-4d23-bbcf8475f099762f/Key-stats-and-facts.pdf>
2. MBRRACE-UK report: learning from deaths in twin pregnancies [Internet]. Sands - Saving babies' lives. Supporting bereaved families. 2021 [cited 2023 May 28]. Available from: <http://www.sands.org.uk/about-sands/media-centre/news/2021/01/mbrrace-uk-report-learning-deaths-twin-pregnancies>
3. Ratha C, Kaul A. An Analysis of Pregnancy Outcome in Dichorionic and Monochorionic Twins Given Special Antenatal and Intranatal Care: A Four-Year Survey. J Obstet Gynaecol India. 2014 Aug;64(4):255–9.