**Table S2.** MCDA twin losses following CVS **(S2a)** and amniocentesis **(S2b)**. \* Indicates pregnancy loss that included a genetically and structurally normal co-twin.

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| **Number of MC twins lost** | **Timing of loss after CVS** | **Procedure Factors** | **Structural/functional issues**  **(1 or 2 twins)** | **Genetic results**  **(1 or 2 twins)** |
| 1 | ≤14 days | Single placenta sampled | Megacystis (1) | Normal (1)  Unknown (1) |
| 1 | ≤14 days | Single placenta sampled | Raised NT (2) | Normal (1)  Unknown (1) |
| 1 | ≤ 14 days | Both placentas sampled | NT >3.5mm (2) | 45X (2) |
| 1 | ≤ 14 days | Both placentas sampled | Hydrocephalus (1) | Normal (2) |
| 2\* | >14 days | Both placentas sampled | sFGR (1) | Normal (2) |
| 2\* | >14 days | Single placenta sampled | Raised NT (1) | Normal (1)  Unknown (1) |
| 2\* | >14 days | Single placenta sampled | Multiple anomalies (1) | Normal (1)  Unknown (1) |

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| **Number of MC twins lost** | **Timing of loss after Amnio** | **Procedure Factors** | **Structural/functional issues**  **(1 or 2 twins)** | **Genetic results**  **(1 or 2 twins)** |
| 2 | ≤14 days | second attempt, both amniotic sacs sampled with separate needle insertions | Hydrops Fetalis (2) | Trisomy 21 (2) |
| 1 | ≤14 days | both amniotic sacs sampled with separate needle insertions | Normal (2) | Trisomy 21 (1)  Normal (1) |
| 1 | ≤14 days | both amniotic sacs sampled with separate needle insertions | Bilateral hydrothorax (1) | Normal (2) |
| 2\* | ≤14 days | both amniotic sacs sampled with separate needle insertions | sFGR | Normal (2) |
| 2 | ≤14 days | both amniotic sacs sampled with separate needle insertions | Cystic Hygroma, VSD (1) | 45X (1)  Normal (1) |
| 2 | ≤14 days | both amniotic sacs sampled with separate needle insertions | Normal (2) | Trisomy 21 (2) |
| 2 | ≤14 days | both amniotic sacs sampled with separate needle insertions | NT >3.5mm (2) | Trisomy 21 (2) |
| 2\* | ≤14 days | both amniotic sacs sampled with separate needle insertions | Univentricular heart, hydrops fetalis (1) | Normal (2) |
| 2\* | ≤14 days | both amniotic sacs sampled with separate needle insertions | Cardiac anomaly, hydrops fetalis (1) | Normal (2) |
| 2 | ≤14 days | both amniotic sacs sampled with separate needle insertions | NT >3.5mm (2) | DNA stored, not tested (2) |
| 1 | ≤14 days | both amniotic sacs sampled with separate needle insertions | Structural anomaly (1) | Normal (2) |
| 1 | >14 days | both amniotic sacs sampled with separate needle insertions | FGR, posterior fossa cyst, cardiac anomaly (1) | Normal (2) |