

Spectrum of Genetic Associations of Early Onset Fetal Growth Retardation In a Tertiary Referral

Centre of North India

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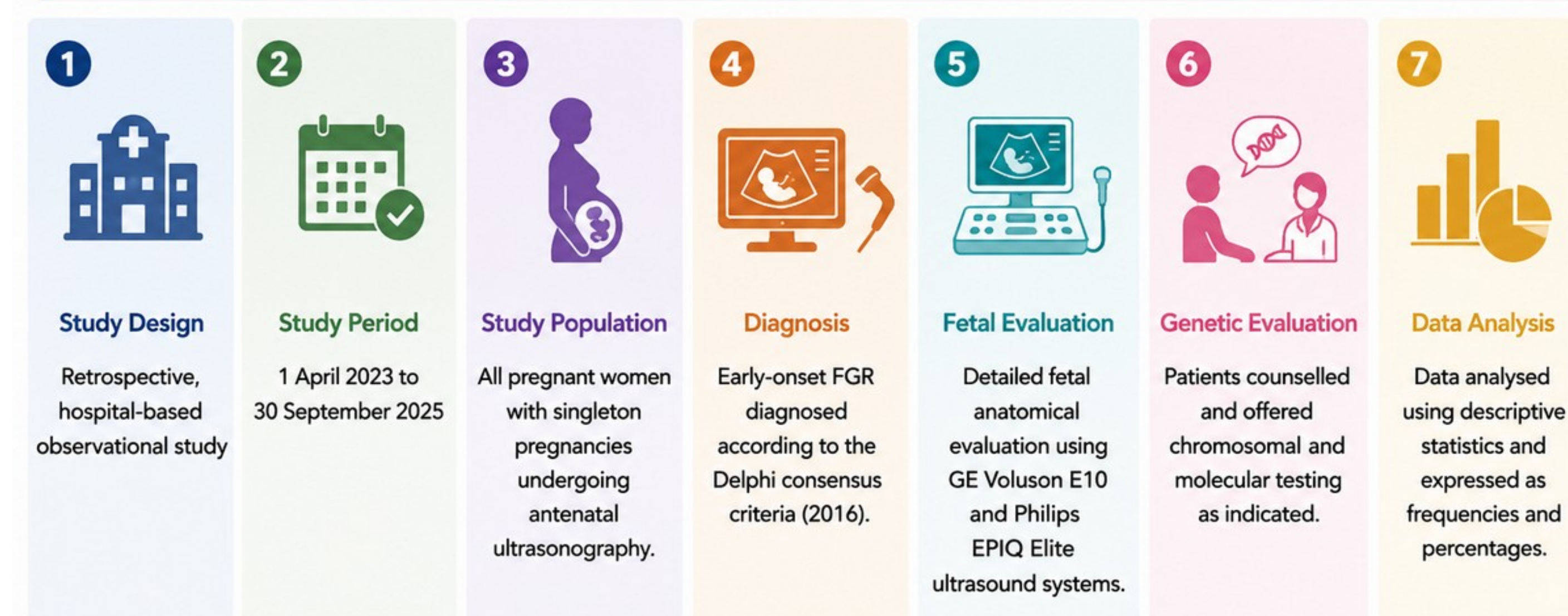
INTRODUCTION

Fetal growth restriction (FGR) is a major cause of adverse perinatal outcomes. Early-onset FGR (<32 weeks) is strongly associated with genetic abnormalities, including chromosomal, monogenic, and epigenetic disorders. Identifying these abnormalities is important for prognosis and genetic counselling. This study evaluated the genetic spectrum of early-onset FGR at a tertiary referral centre in

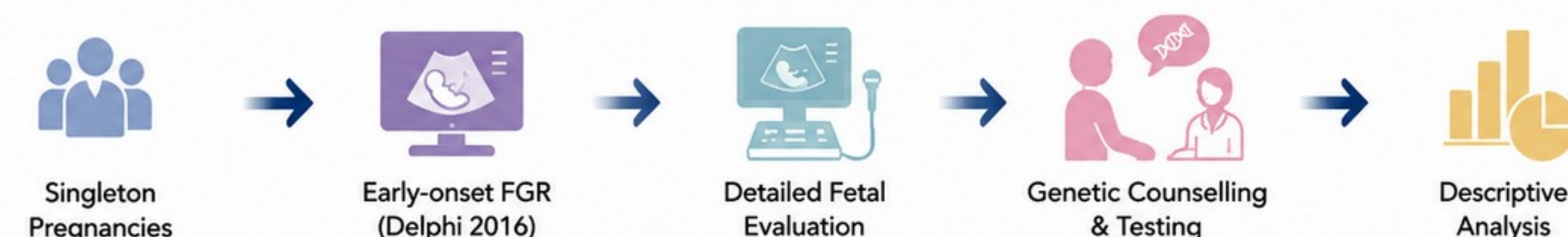
North India.

MATERIALS AND METHOD

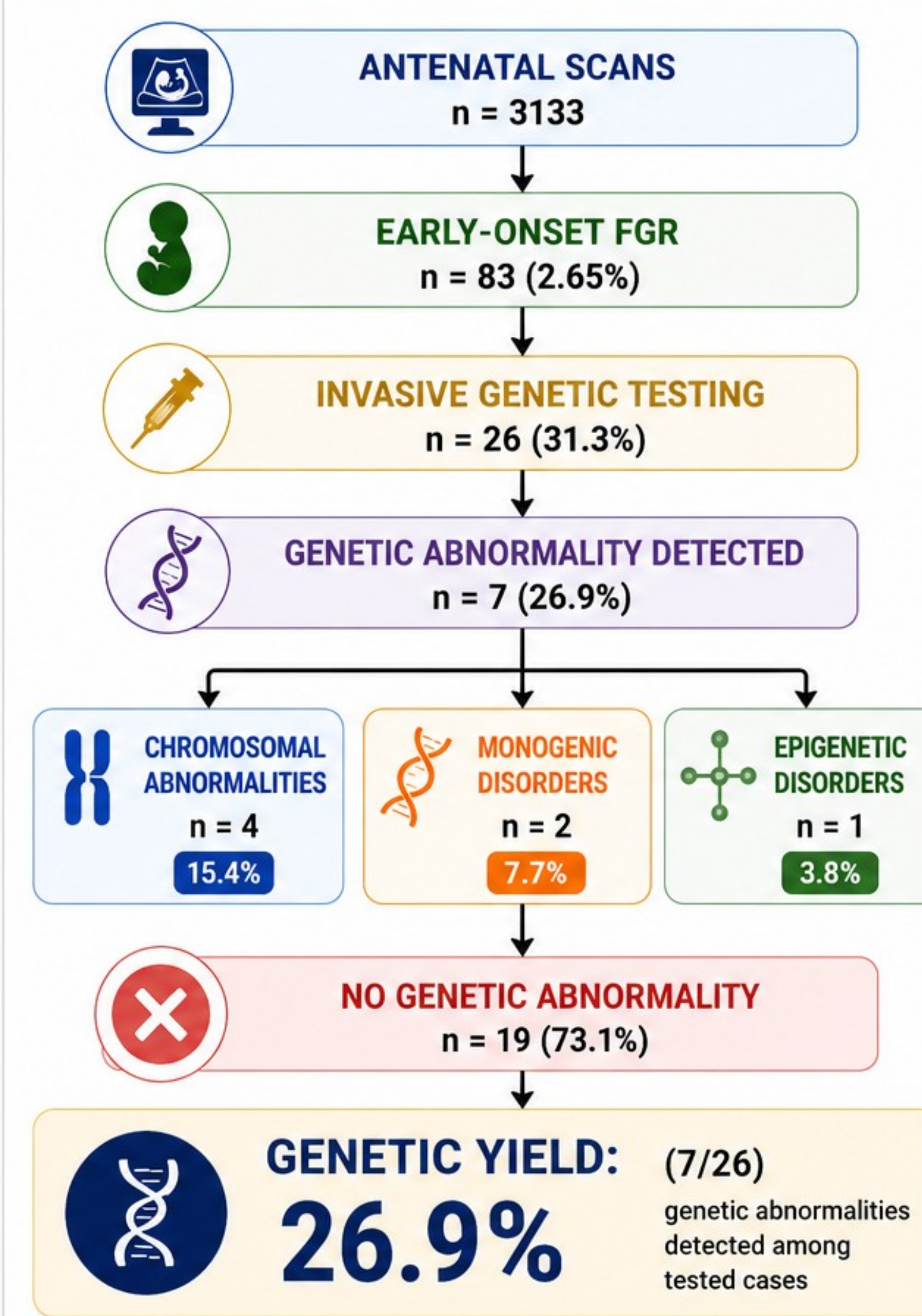
MATERIALS AND METHODS



STUDY OVERVIEW



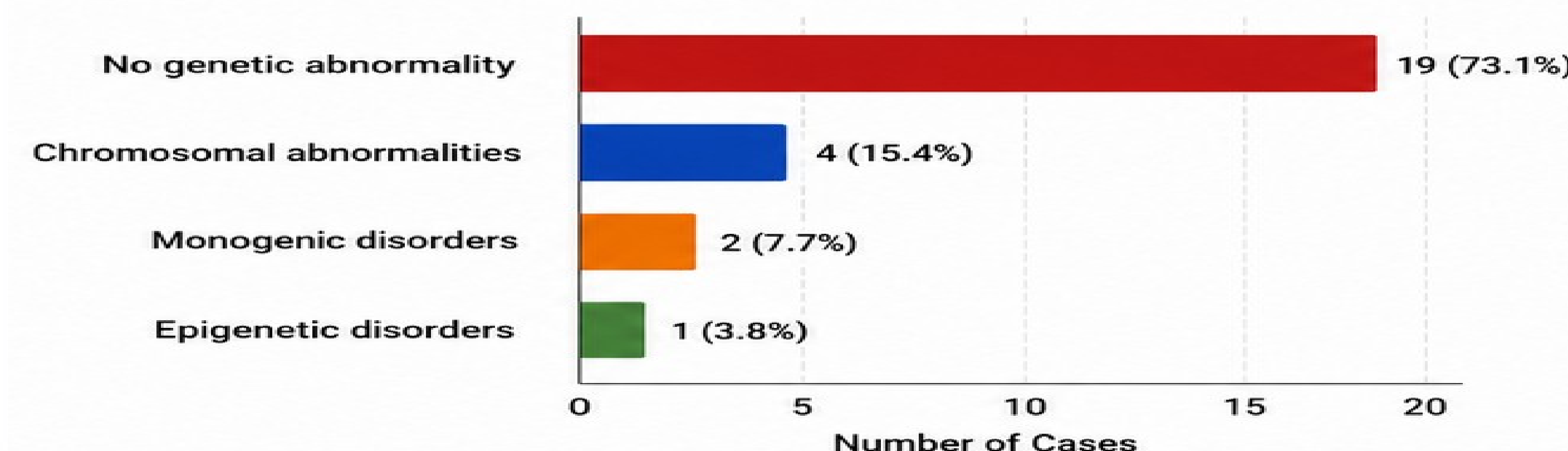
STUDY FLOW & OVERALL SUMMARY



ASSOCIATION WITH STRUCTURAL ANOMALIES

GROUP	GENETIC YIELD	INFERENCE
FGR WITH STRUCTURAL ANOMALIES	HIGH	Strong association with chromosomal abnormalities
ISOLATED FGR	LOW	Likely multifactorial or placental causes

SPECTRUM OF GENETIC ABNORMALITIES (n=26)



KEY RESULTS

A total of 3,133 antenatal scans were performed, identifying 83 cases (2.65%) of early-onset FGR. Invasive genetic testing was performed in 26 cases (31.3%). Genetic abnormalities were detected in 7/26 (26.9%), including chromosomal abnormalities in 4 (15.4%), monogenic disorders in 2 (7.7%), and an epigenetic disorder in 1 (3.8%). No genetic abnormality was identified in 19 cases (73.1%). Genetic abnormalities were more common in fetuses with associated structural anomalies than in those with isolated FGR.

CONCLUSION

- Early-onset FGR has a significant genetic basis.
- Genetic abnormalities are more frequent with structural anomalies.
- Prenatal genetic testing is recommended in early-onset FGR.
- CMA is the preferred first-line test.
- Exome sequencing adds diagnostic value after a normal CMA.