

Title- Association of preterm placental calcification with uterine artery Doppler changes in fetal growth restriction.

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AIM

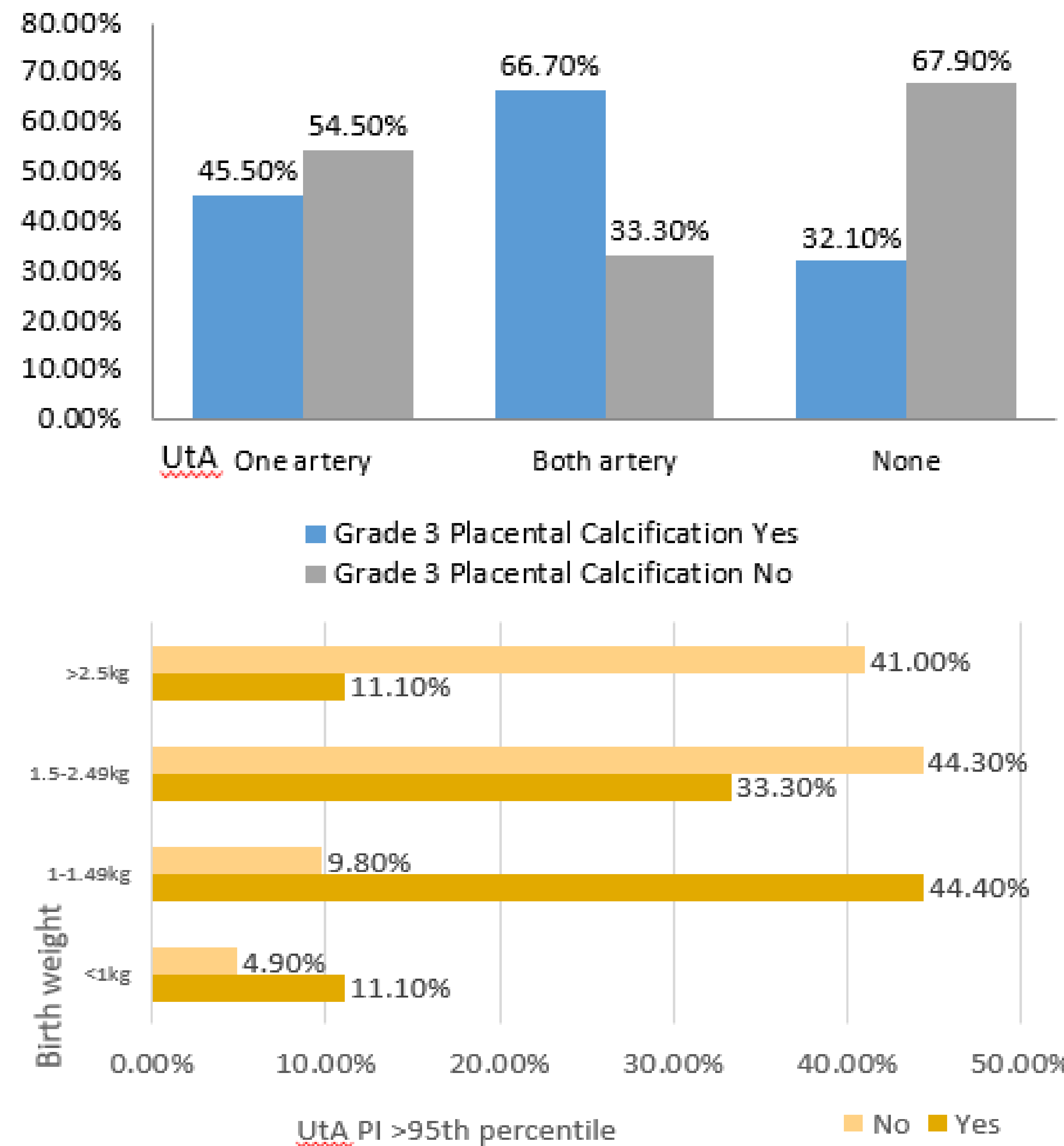
- To correlate Preterm placental calcification with Uterine Artery (UtA) Doppler changes [Pulsatility index (PI)] at 28 to 35 weeks of gestation in fetal growth restriction and normal pregnancy matched for period of gestation.
- To correlate preterm placental calcification (PPC) in fetal growth restriction and normal pregnancies with adverse perinatal outcome.

METHOD

A prospective case control study, carried out in the Dept of Obstetrics and Gynaecology and Dept of Radiodiagnosis at a tertiary care hospital between years 2020-2021. A total of 70 ANC women were enrolled, consisting of 35 patients with FGR and without FGR each between POG 28 to 35 weeks. Doppler study was done on various vessels along with placental calcification grading.

RESULT

- No significant association seen between uterine artery pulsatility index >95th percentile and grade 3 preterm placental calcification (PPC) (p=0.712)
- Significant association between umbilical artery pulsatility index >95th centile and grade 3 PPC (**p=0.026**).
- Adverse prenatal outcomes like low birth weight, low Apgar score, Meconium stained liquor, intrauterine fetal death were observed in FGR group with deranged UtA PI and significant association with increased duration of hospital stay and NICU admission.



DISCUSSION

- Demographic profile of patients in our study was in accordance with the study of Monier et al.¹ Grade 3 PPC was most prominent in pregnancies with FGR as shown by Schiffer et al.² The mean UtA PI was significantly higher in FGR as compared to controls as in study of Chakravaty N et al.³ along with Dash et al⁴.
- Independently both abnormal UtA PI and Grade 3 PPC can predict poor perinatal outcomes.
- UA PI can be used as surrogate marker for diagnosing FGR.
- If Grade 3 PPC is present there are chances that UA PI may get deranged and thus help in predicting FGR.
- We observed both were associated with poor perinatal outcome separately and can have an additive effect on the adverse outcome if present together. We recommend closer fetal surveillance in cases with abnormal UA PI and Grade 3 PPC.

CONCLUSION

The sample size was reduced due to difficulty in recruitment during the COVID-19 pandemic and the conversion of Hospital to COVID-19 dedicated facility.

Also the outcomes studied were subject to other antepartum and intrapartum factors which could affect the results.

LIMITATIONS

Despite no association between UtA PI and grade 3 PPC, separately they can be used in monitoring and prognostication in FGR. We recommend closer surveillance and frequent follow up in patients with above findings to improve outcome and avoidance of poor long-term sequelae.

REFERENCES

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