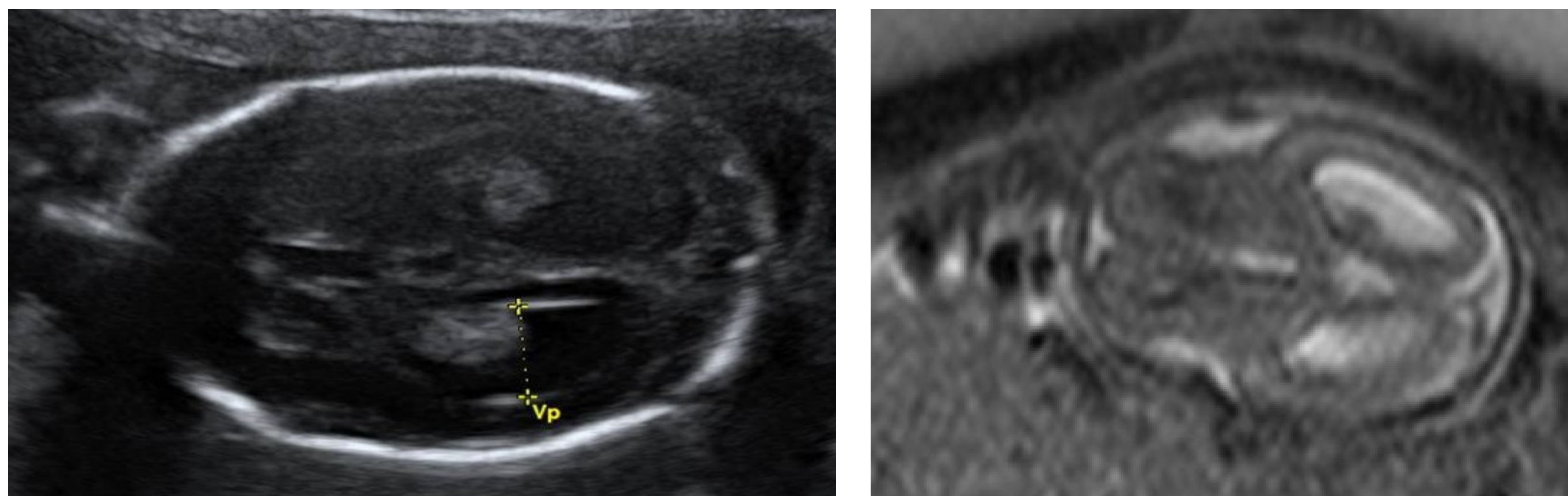


USEFULNESS OF MAGNETIC RESONANCE IMAGING FOR PRENATAL MANAGEMENT OF VENTRICULOMEGALY

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BRIEF INTRODUCTION

Ventriculomegaly (VM) defined as an atrial diameter exceeding 10 mm is one of the most common prenatally diagnosed central nervous system (CNS) abnormalities. Its prognosis depends on the grade of dilatation, existence of progression and the presence of other congenital anomalies. Fetal magnetic resonance imaging (MRI) is a complementary tool that can be done to complement ultrasound (US) diagnostic and improve prenatal management.



OBJECTIVE

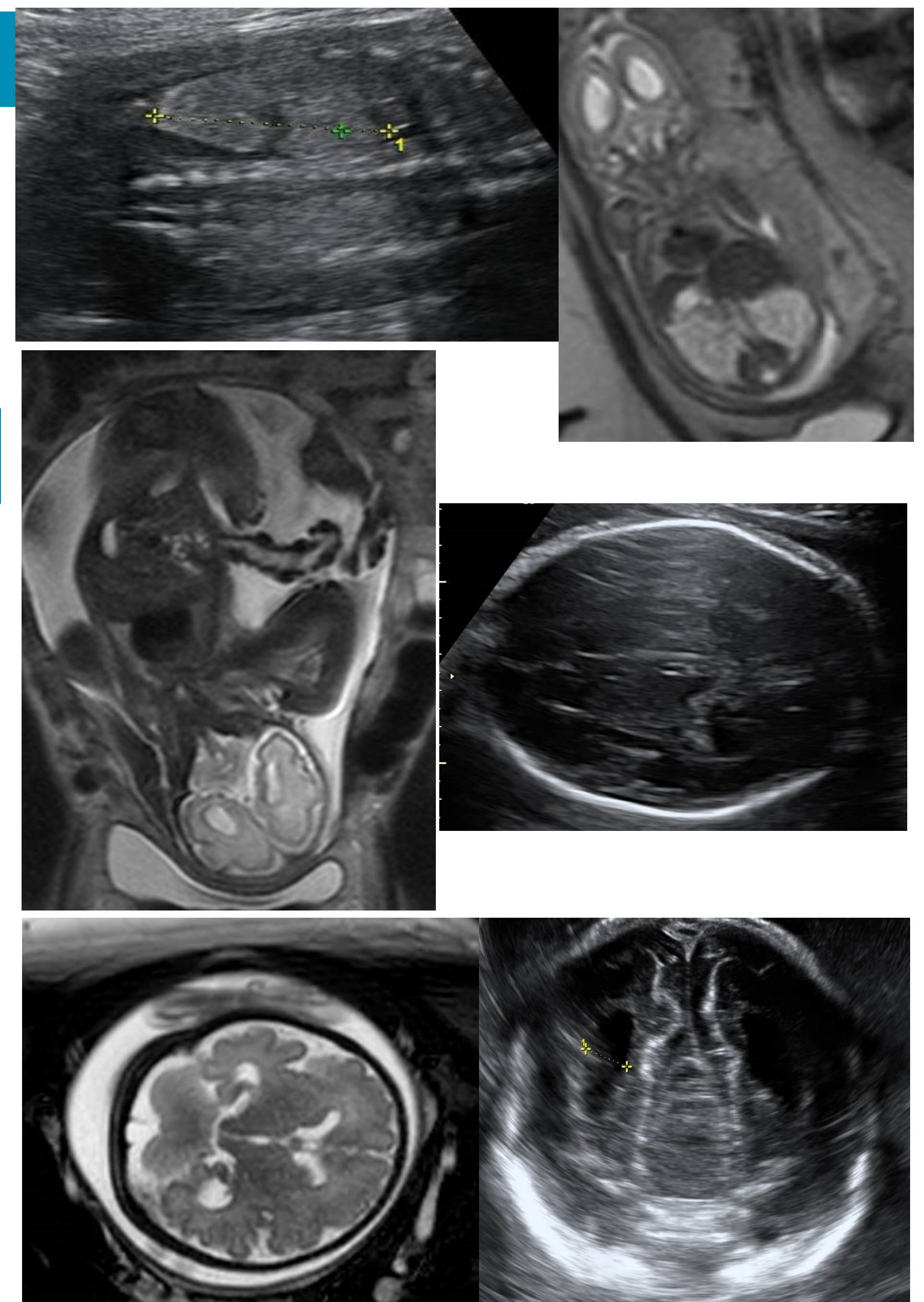
- to evaluate the concordance between US and MRI in the VM.
- to determine the usefulness of MRI in the evaluation of associated fetal malformation

MATERIAL AND METHODS

Retrospective observational study based on all fetal VM diagnosed by US who undergo neurosonography and MRI in our hospital between 2014 and 2018. We compared the findings obtained by US with MRI.

RESULTS

Twenty-eight cases of VM were found and 50% of the diagnoses were made at 20 weeks. 57% of abnormalities were unilateral isolated VM, 28% bilateral isolated VM and 15% were associated with other congenital anomalies. MRI was congruent with neurosonography in the majority of the cases and it apported additional information in 21% of cases, 7% of extra-CNS malformation (1 renal polycystosis, 1 intra abdominal cyst) and 14% of CNS malformation (1 mega cisterna magna, 1 cerebellar hypoplasia, 1 abnormal cortical sulcation, 1 vermis hypoplasia + abnormal cortical sulcation). Non congruency between MRI and neurosonography was observed in 25%, all cases of mild VM in which MRI informed about bilateral VM despite of unilateral VM and viceversa.



CONCLUSIONS

- MRI is an important tool to improve the diagnosis of associated malformations,
- Fetal MRI is especially useful for detecting CNS abnormalities and particularly for assessing cortical malformation and migrational abnormalities.
- Although VM are well defined by US, MRI can provide a more accurate diagnosis and can improve patient counseling.
- MRI should be recommended in all cases of VM to complete prenatal assessment.