**Introduction**

In this study we examined the individual and combined ability of multiple sonographic and MRI signs to diagnose invasive placentation in suspected cases in the third trimester.

**Methods**

We assessed 28 cases of suspected invasive placentation in the third trimester. All cases underwent ultrasound assessment as well as MRI scan. Invasive placentation was confirmed during surgery. The value of sonographic and MRI signs in the detection of invasive placentation was assessed.

**Results**

A total of 23 cases were diagnosed with invasive placentation during cesarean delivery. Overall, ultrasound was found to be more sensitive and specific compared to MRI (sensitivity of 95.7% vs. 82.6% and specificity of 60% vs. 40%, respectively).

**Conclusion**

- Ultrasound was superior to MRI in detection of invasive placentation in suspected cases.
- Use of a constructed model can improve detection of invasive placentation via MRI.