Objectives: The purpose of this study was to compare the value of CEUS using a microbubble contrast agent with color Doppler ultrasound in the assessment of perfusion in morbidly adherent placenta.

Methods: Thirty-four patients of morbidly adherent placenta after delivery hospitalized in our hospital were examined by gray-scale ultrasound, color Doppler ultrasound, and CEUS. A manually designed region of interest (ROI) was placed around the lesion by grey scale ultrasound, the color region by color Doppler ultrasound and the enhanced region of the abnormal mass. The areas by three methods obtained by software package QLAB were compared between each other.

Results: The enhancement area was larger than color doppler area and smaller than grey scale area. The lesions showed hyperenhancement. Some sections of the mass, which were later proven to be hematocele or necrotic placenta tissue, never enhanced during the examination.

Conclusions: CEUS can evaluate the perfusion, area, location of the morbidly adherent placenta more accurately than color doppler ultrasound and may be useful for the clinic decision.