**Objective:** To investigate the utility of fetal lung to liver signal intensity ratio (LLSIR) calculated by MRI for the prediction of functional pulmonary hypoplasia.

**Methods:** On the fetal coronary plane of T2-weighted images by single-shot turbo spin-echo sequence, each signal intensity of lung and liver was measured, and then the ratio of lung to liver signal intensity was calculated (LLSIR).

**Conclusion:** LLSIR of functional pulmonary hypoplasia group was significantly lower than that of normal group. This result indicates that low LLSIR might reflect the histological characteristics of hypoplastic lung structures. LLSIR seems to be a useful MRI parameter for the screening of fetal functional pulmonary hypoplasia because of its high negative predictive value.