**Objectives:**
This study was designed to investigate blood flow parameter of umbilical artery in normal fetus obtained by Doppler ultrasonography in the plateau area, in comparison with the plain area, and to observe the effect of altitude environment on fetal umbilical cord and placental circulation.

**Methods:**
A total of 103 pregnant women with normal pregnancy were enrolled randomly in the Affiliated Hospital of Qinghai University (2300 meters above sea level) from June 2016 to December 2016, taking 216 cases of normal pregnant women who were enrolled randomly in the Peking University Civil Aviation School of Clinical Medicine (44 meters above sea level) as control group. The pregnant women in the plateau group and the plain group were divided into five groups respectively according to the gestational age: 20 ~ 23 weeks, 24 ~ 27 weeks, 28 ~ 31 weeks, 32 ~ 35 weeks, 36 ~ 40 weeks. Pulsatility index (PI), resistance index (RI), and the ratio of peak systolic velocity to end diastolic velocity (S/D) of fetal umbilical artery blood flow of two groups were measured by Doppler ultrasonography. For the normal distribution variables, two independent samples of t-test was used. For the non-normal distribution variables, two independent samples of Mann-Whitney U test was used.

**Results:** Pulsatility index (PI), resistance index (RI) and S / D ratio of fetal umbilical artery blood flow have no significantly different between the plateau group and the plain group in. (all p >0.05).

**Conclusion:** There is no significant difference in the resistance of normal fetal umbilical cord and placental circulation at altitude of 2300m and in the plain area.