To explore the change in the expression of pentraxin 3 (PTX3)-mRNA and its clinical significance in fetal lung tissues with intrauterine infection related to premature rupture of membranes (PROM).

1. From Oct 2010 to Oct 2011, a total of 12 cases of fetal death, stillbirth, abortion or miscarriage of fetal lung specimens were assigned to this study. Fetal lung samples were divided into two groups according to with or without intrauterine infection related to PROM.

2. Fetal lung tissue specimens were fixed with 4% paraformaldehyde and paraffin embedded within 2h, 4mm serial section, and then HE staining. Light microscope was used to identify whether infection/inflammatory response existed in fetal lung tissues or not. Total RNA samples from fresh lung tissue were reverse transcribed into Cdna. Gly cerebro-dehyde-3-phosphate (GAPDH) was used as reference gene. qRT-PCR and relative quantitative analysis method were performed to detect the expression of mRNA in lung tissue in two groups. Relative expression of Mrna in two groups were compared by ΔCt method of relative quantification.

The results showed that:

1. There was a larger number of neutrophil infiltration, red blood cells leakage, viscous liquid and inflammatory cell exudation in fetal lung tissues of study group.

2. Study group displayed higher expression of PTX3-mRNA than in control group (5.77±0.68 vs. 4.71±0.40, p=0.002).

Conclusions The expression of PTX3-mRNA was significantly increased in fetal lung tissues with intrauterine infection related with PROM, which can be regarded as a sensitive index for the early diagnosis of fetal intrauterine infection when PROM exists.