The effects of ultrasound-guided intra-amniotic nutrition therapy on heart and lung development in neonatal rabbits with intrauterine growth retardation

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Objective
To find the effects of amniotic cavity nutrient therapy on heart and lung development of IUGR rabbits.

Methods

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<tr>
<th>Group</th>
<th>Description</th>
<th>IUGR</th>
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<tbody>
<tr>
<td>A (control</td>
<td>30 days of pregnancy, cesarean sections</td>
<td>6.67%</td>
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<tr>
<td>B (IUGR group, n=5)</td>
<td>ultrasound-guided intra-amniotic nutrition therapy</td>
<td>65.63%</td>
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<td>C (IUGR with nutrient group, n=5)</td>
<td>changes and the maturation grade of lung and heart tissue structure</td>
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Results

- Fetal rabbit lung synthesis, secretion of DPPC and pulmonary surfactant protein A of group B relative to the group A were decreased; DPPC, SPA content of group C were increased compared with the group B, but can't reach the level of group A.
- Lung and heart maturation in group B was lower than that in group A, lung and heart maturation in group C was slightly lower than that in group B.
- The number of apoptotic cells in myocardium in group B was more than that in group A, but less in group C than in group B.

Conclusions
Amniotic cavity nutritional therapy which can play an important role in promoting the development of heart and lung maturation in IUGR fetus.