**The dynamics of the vaginal micro-ecology during in vitro fertilization and embryo transfer (IVF-ET) cycles and its impact on pregnancy outcomes**

**Reproductive Sciences**

Quan Tian1, Yujie Liu1, Jiane Liu1, Jianru Wu2, Jianxin Liu1, Xiuming Tang1, Weihong Hu1, Xia Liu1\*.

1 Department of Reproductive Medicine, the Affiliated Hospital of Qingdao University, Qingdao 266000, Shandong, China.

2 Shenzhen Institute of Pharmacovigilance and Risk Management, Shenzhen, China.

\***Corresponding author**

Xia Liu, Ph.D

Department of Reproductive Medicine, the Affiliated Hospital of Qingdao University, Qingdao 266000, Shandong, China.

Email: qdliuxia@yeah.net

**S1**

**BV patients and their outcomes**

The five BV patients for swab 1 enrolled in this study are presented in Table 7. For swab 2, 5 patients are also AVM. Patients A02 and A05 demonstrated negative hCG concentrations, representing a non-pregnancy. In addition, patients A01, A03, and A04 became pregnant, but had a miscarriage.

**BV patients for swab 1 and clinic outcomes**

|  |  |  |  |
| --- | --- | --- | --- |
| Patient (ID) | Age | Swab2 | Follow up |
| A01(18) | 36 | Intermediate BV | miscarriage |
| A02(8) | 37 | BV | - |
| A03(94) | 28 | abnormal dominant flora | miscarriage |
| A04(39) | 32 | Abnormal flora diversity | one miscarriage of twin pregnancy |
| A05(69) | 38 | Intermediate BV | - |

There were fourteen BV patients for swab 2, where twelve patients became from AVM, including BV, intermediate BV, and abnormal flora diversity, etc. Only three patients (21.4%) had a live birth. Patients A02, A12 and A14 demonstrated very low hCG concentrations, likely representing a biochemical pregnancy. In addition, patients A06, and A09 became pregnant, but had a miscarriage.

**BV for swab 2 and clinic outcomes**

|  |  |  |  |
| --- | --- | --- | --- |
| Patient (ID) | Age | Swab1 | Follow up |
| A01(119) | 32 | Intermediate BV | Biochemical pregnancy |
| A02(8) | 37 | BV | - |
| A03（136） | 28 | Abnormal flora density | Live birth |
| A04(6) | 28 | Abnormal flora diversity | - |
| A05（42） | 36 | - | - |
| A06(50) | 39 | Intermediate BV | Early miscarriage |
| A07(130) | 33 | Intermediate BV | - |
| A08(13) | 35 | abnormal dominant microflora | Live birth |
| A09(9) | 38 | Abnormal flora diversity | Early miscarriage |
| A10（44） | 33 | - | Live birth |
| A11(38) | 31 | Intermediate BV | - |
| A12（72） | 32 | Intermediate BV | Biochemical pregnancy |
| A13 (141) | 31 | Intermediate BV | - |
| A14 (146) | 37 | Abnormal flora diversity | Biochemical pregnancy |