A Case Report of Possible Superfetation with Evidence of Ultrasound Findings, Gestational Age Calculations and Postnatal Complications

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Abstract

Introduction: Superfetation is when a second ovum is fertilized after there is already presence of an embryo in the uterine cavity. Human superfetation is extremely rare with less than 10 cases in the literature. According to previous research, the diagnosis of superfetation is suspected when there is a growth discrepancy in a multiple pregnancy.

Case presentation: We present a case of a 35-year-old gravid 1 para 0 who presented to her OB/GYN at 7 weeks by known last menstrual period (LMP) for her first prenatal visit. She was found to have single intrauterine pregnancy consistent with known LMP. At 12 weeks she had a cell free DNA (cfDNA) test performed that came back abnormal. The patient’s next ultrasound at 19 weeks showed a twin gestation. Repeat cfDNA was normal for twin gestation and serial ultrasounds showed normal interval growth of both twins with the same discordance throughout the rest of the pregnancy. The cfDNA results, ultrasound findings demonstrating consistent growth discordance with normal interval growth otherwise, NICU management difference and placenta analysis post birth all support the diagnosis of superfetation.

Discussion: This case adds to the literature of human Superfetation.

Case

A 35-year-old gravid 1 para 0 presented to her OB/GYN at 7 weeks by known last menstrual period (LMP) for her first prenatal visit. She has a history of hypertension and post-op deep vein thrombosis after an elective peroneal tendon repair. Her ultrasound that day demonstrated single intrauterine pregnancy consistent with her LMP (Figure 1A and Figure 1B). At 12 weeks, the patient had a cell free DNA (cfDNA) test performed that came back abnormal, the result being high-risk. Cell-free DNA is a serum-based screening test for aneuploidies using analysis of cell-free DNA fragments of placental trophoblasts that escape into the maternal circulation [1]. The report suggested this was due to either a vanishing twin, unrecognized multiple gestation or increased risk of fetal triploidy. No further ultrasounds were performed until 19 weeks.

At 19 weeks and 2 days, the patient had a consult at a tertiary care facility with a maternal fetal medicine (MFM) physician for advanced maternal age and her high-risk cfDNA test. Ultrasound showed an undiagnosed twin gestation; Twin A measuring 18 weeks and 6 days and Twin B at 17 weeks and 2 days. The patient was advised to terminate the pregnancy due to fetal triploidy concerns for Twin B due to fetal growth restriction at such an early stage and her high-risk cfDNA test. According to the patient, the possibility of her high-risk cfDNA being a result of her missed twin pregnancy diagnosis and not fetal triploidy was not discussed with her. She was offered amniocentesis but declined at that time.

2 weeks later, the patient sought a second opinion at another tertiary care facility. Ultrasound again demonstrated a twin pregnancy (Figure 2A and Figure 2B).

Measurements showed Twin A at 21 weeks and Twin B at 19 weeks. The twins were both morphologically normal and had normal amniotic fluid measurements.
Twin A neonatal intensive care (NICU) course was 160 days. She was on the ventilator 14 days. She was treated for reflux and feeding issues. The NICU doctor told the patient, “her NICU course was like a normal 28-week baby”.

Twin B NICU course was 192 days. He was on the ventilator for 42 days. He was more difficult to ventilate and more difficult to wean off the ventilator. The NICU doctor told the patient, “he is acting like a 25-week baby with his NICU course instead of a 28-week-old baby”. At that time, the NICU team started to treat him like a 25-week baby by slowing down ventilator weaning and giving him more time to grow. When that change was made his NICU course was typical for a “25-week baby”. He went home on 2 liters nasal cannula oxygen at night. He also had more feeding issues than Twin A and was discharged with a G-Tube for supplemental feedings at home.

**Discussion**

We feel this case demonstrates human superfetation.
4-week discordance that was confirmed throughout the pregnancy with ultrasound measurements \[6\]. In this case report dichorionic diamniotic twins were born with Twin 1 being 40 weeks and Twin 2 being 36 weeks \[6\].

Another case came from a personal story, a mom who had her first ultrasound at 7 weeks with one fetus seen in the uterus. A second ultrasound at 12 weeks showed a twin gestation \[7\]. She was told by her doctor that there was a 3-week size difference in the twins \[7\]. This continued throughout the entire pregnancy. The smaller child was tested for trisomy and results were normal \[7\]. The twins were born at 33 weeks with the boy measuring 4 lbs 10 oz and the girl measuring 2 lbs 7 oz \[7\]. She was told by her doctors that this was a possible Superfetation is a rare phenomenon that occurs when a second ovum is fertilized after there is already presence of a fetus in the uterine cavity \[2\]. According to previous research, the diagnosis of superfetation is suspected when there is a growth discrepancy in a multiple pregnancy \[3\]. This is rare in humans with less than 10 cases of superfetation are described in the literature \[4\]. One of the early cases of superfetation was described in 1992 showing dichorionic diamniotic twins with a 4-week size and consistent growth difference shown through ultrasound measurements \[5\]. In this same case study at birth Twin 1 was 37 weeks and Twin 2 was 33-34 weeks \[5\]. In 1999, there was a similar case of superfetation where twins were born with a 4-week discordance that was confirmed throughout the pregnancy with ultrasound measurements \[6\]. In this case report dichorionic diamniotic twins were born with Twin 1 being 40 weeks and Twin 2 being 36 weeks \[6\]. Another case came from a personal story, a mom who had her first ultrasound at 7 weeks with one fetus seen in the uterus. A second ultrasound at 12 weeks showed a twin gestation \[7\]. She was told by her doctor that there was a 3-week size difference in the twins \[7\]. This continued throughout the entire pregnancy. The smaller child was tested for trisomy and results were normal \[7\]. The twins were born at 33 weeks with the boy measuring 4 lbs 10 oz and the girl measuring 2 lbs 7 oz \[7\]. She was told by her doctors that this was a possible...
The cfDNA results, ultrasound findings showing growth discordance with normal interval growth otherwise, NICU management difference and placenta analysis post birth point to evidence of superfetation. All the evidence points toward this conclusion and we feel this case adds to the literature of human superfetation.

Key Points

1. Superfetation is a when second ovum is fertilized after there is already presence of a fetus in the uterine cavity.
2. Human superfetation is extremely rare with less than 10 cases in the literature.
3. This case adds to the literature of human superfetation.

References

7. Rebecca Roberts Facebook page. This post is a personal account of superfetation.

Conclusion

It is our belief that this is a case of superfetation.