William Mackenzie Blighted Ovum Syndrome: An Educational Ultrasound Image and Review

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Received Date: November 10, 2023; Accepted Date: December 05, 2023; Published Date: January 15, 2024

Citation: Aamir Jalal Al Mosawi, (2024), Efficacy and Safety of Once-Weekly Insulin ICODEC, Clinical Trials and Clinical Research. 3(1); DOI:10.31579/2834-5126/048

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Abstract

Background: A blighted ovum syndrome occurs when a pregnant female had anembryonic gestation with normal gestational sac, but without an embryo. The embryo may have not developed or it developed, but has reabsorbed. William Mackenzie was most probably the first to provide a detailed account of the condition which included a description of a blighted ovum dissection. Since the 1970s, blighted ovum syndrome has been increasingly recognized as a cause of recurrent miscarriages. The aim of this paper is to provide and educational ultrasound image and an educational review.

Patients and methods: The case of a 39-year-old female who experienced a blighted ovum syndrome is described.

Results: A 39-year-old primigravida female was tested positive for pregnancy, and within few days she experienced spotting of blood. Ultrasound examination showed anteverted gravid uterus with a single gestational with yolk sac without fetal pole. The mean gestational sac diameter was at six weeks. Both adnexa were normal and the cervix was closed. Four days later the patient experienced pain and bleeding indicating miscarriage.

Conclusion: This paper emphasizes the vital role of ultrasound examination in the timely and confident diagnosis of blighted ovum syndrome.

Keywords: ultrasound examination; blighted ovum syndrome; anembryonic gestation

Introduction

A blighted ovum syndrome occurs when a pregnant female had anembryonic gestation with normal gestational sac, but without an embryo. The embryo may have not developed or it developed, but has reabsorbed. William Mackenzie (Figure-1) was most probably the first to provide a detailed account of the condition which included a description of a blighted ovum dissection [1, 2]. Since the 1970s, blighted ovum syndrome has been increasingly recognized as a cause of recurrent miscarriages [3]. The aim of this paper is to provide and educational ultrasound image and an educational review.
**Patients and methods**

The case of a 39-year-old female who experienced a blighted ovum syndrome is described.

**Results**

A 39-year-old primigravida female was tested positive for pregnancy, and within few days she experienced spotting of blood. Ultrasound examination (Figure-2) showed anteverted gravid uterus with a single gestational yolk sac without fetal pole. The mean gestational sac diameter was at six weeks. Both adnexa were normal and the cervix was closed. Four days later the patient experienced pain and bleeding indicating miscarriage.

**Discussion**

The diagnosis of blighted ovum syndrome by ultrasound examination has been reported as early as the 1972. Normally, an embryo can be seen on an ultrasound six weeks after the last menstrual period. In blighted ovum syndrome, an early death of the embryo occurs with continued formation of the trophoblast. Therefore, there will be generally a yolk sac that can be seen on ultrasound, but without a fetal pole.

The ultrasound diagnosis of blighted ovum syndrome is based on finding a gestational sac diameter more than 25 mm with no yolk sac, or a gestational sac diameter more than 25 mm without embryo [4, 5].

In 1979, Schweditsch et al reported the hormonal profiles of six females who experienced blighted ovum syndrome, and terminated in miscarriages. Serum chorianic gonadotropin levels were lower than normal or at the lowest normal level in five of six females. Three females had progestrone levels within 1 SD of the normal, with normal level of serum estradiol. Schweditsch et al suggested that early pregnancy is characterized by increasing serum chiorionic gonadotropin and estradiol levels and lowering of serum progestosterone level from the 5th to the 8th week of gestation. They emphasized that subnormal level of serum estradiol should raise the suspicion of a blighted ovum syndrome [6].

**Conclusion**

This paper emphasizes the vital role of ultrasound examination in the timely and confident diagnosis of blighted ovum syndrome.

**References**

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