Int. J. Curr. Res. Med. Sci. (2023). 9(7): 25-28

International Journal of Current Research in Medical Sciences

ISSN: 2454-5716

(A Peer Reviewed, Indexed and Open Access Journal)

www.ijcrims.com

Review Article

Volume 9, Issue 7 -2023

DOI: http://dx.doi.org/10.22192/ijcrms.2023.09.07.005

Molar Pregnancy: Update of prevalence and risk factors

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Abstract

With a focus on its prevalence, risk factors, clinical characteristics, diagnostic techniques, management approaches, and outcomes, this paper aims to provide a thorough overview of molar pregnancy. It will be possible to gain important insights into the causes of molar pregnancy and their contributing factors by looking at the literature and research studies that have already been done. The results emphasize the value of early identification, suitable management, and preventive measures for this uncommon pregnancy complication. When compared to typical pregnancies, the prevalence of molar pregnancy is relatively low, with estimates ranging from 1 in 468 to 1 in 714 pregnancies. The reasons for these variations in prevalence rates include study populations, methodologies, and geographic considerations. Maternal advanced age and a history of molar pregnancy have both been identified as risk factors for molar pregnancy. Environmental elements like nutritional deficiencies and exposure to high altitudes, as well as genetic abnormalities in the sperm or egg, may also play a role in the development of molar pregnancy.

Keywords: prevalence, risk factors, molar pregnancy, women

Introduction

Molar pregnancy, also known as gestational trophoblastic disease, is a rare and complex pregnancy disorder that is characterized by abnormal placenta growth [1]. It affects about 1 in 714 pregnancies in the United Kingdom and 1 in 468 pregnancies in Italy. Effective management and prevention of molar pregnancy depend on an understanding of its prevalence and risk factors [1].

According to Pascual et al., a significant risk factor for molar pregnancy is advanced maternal age. Compared to younger women, women over the age of 35 are at a higher risk. The risk of recurrence in subsequent pregnancies is also increased by a history of molar pregnancy in a prior pregnancy [1].

Molar pregnancy can occur for a variety of reasons, including genetics. Genetic anomalies in the sperm or the ovum are frequently blamed for abnormal fertilization that results in the development of a full or partial mole [2].

NLRP7 and KHDC3L gene mutations, for example, have been linked to an increased risk of molar pregnancy [3].

Molar pregnancy may also develop as a result of environmental factors. Nutritional deficiencies have been associated with an increased risk, particularly low folate and other micronutrient intake during pregnancy [4]. Furthermore, exposure to high altitudes has been linked to a higher incidence of molar pregnancy, possibly as a result of a lack of oxygen [4].

Molar pregnancy, to sum up, is a rare but serious pregnancy disorder characterized by abnormal placental growth. Key risk factors have been identified as maternal advanced age, prior molar pregnancy, genetic abnormalities, nutritional deficiencies, and exposure to high altitudes [1]. For early detection, efficient management, and preventive measures in molar pregnancies, it is crucial to comprehend these factors.

Occurrence of molar pregnancy

Molar pregnancy, also referred to as gestational trophoblastic disease, can occur more frequently in some populations than others. The studies listed below shed light on the prevalence of molar pregnancy [1].

Molar pregnancy is a rare pregnancy disorder marked by abnormal placenta growth, with prevalence rates varying across populations and geographical areas [5]. Approximately 1 in 468 to 1 in 714 pregnancies are molar pregnancies, which is a very low incidence when compared to normal pregnancies [6]. Prevalence rates can vary depending on study populations, methodologies, and geographic considerations [6].

An important risk factor for molar pregnancy has been identified as advanced maternal age). Women over a certain age are at an increased risk of molar pregnancy, with a higher prevalence seen in those over 35, according to studies [5]. A history of molar pregnancy is also linked to a higher risk, in addition to advanced maternal age [7]. In comparison to the general population, women who have previously had a molar pregnancy are more likely to experience another one [7].

Genetic anomalies in the sperm or ovum have been linked to increased risk of molar pregnancy [8]. Complete or partial moles may develop as a result of abnormal fertilization processes [8]. In addition, environmental factors like poor nutrition and exposure to high altitudes have been theorized to play a role in the development of molar pregnancy, though more research is required to draw firm conclusions [9].

Molar pregnancy: etiology and pathogenesis

Molar pregnancy is the result of abnormal fertilization, which can result in the development of a full or partial mole. Complete moles are a result of genetic abnormalities in the father, such as androgenetic diploidy, whereas partial moles are the result of triploid or two-sperm fertilization of the egg.

The typical characteristics of molar pregnancy are caused by these genetic anomalies, which interfere with normal trophoblastic development.

Molar pregnancy risk factors

Molar pregnancy can occur for a variety of reasons, including genetics

Genetic abnormalities in the sperm or the egg are frequently blamed for abnormal fertilization that results in the development of a full or partial mole [10]. Additionally, certain gene mutations, like those in the NLRP7 and KHDC3L genes, have been linked to a higher risk of molar pregnancy [8].

Molar pregnancy may also develop as a result of environmental factors

An increased risk of molar pregnancy has been associated with nutritional deficiencies, particularly low folate and other micronutrient intake during pregnancy [6]. Additionally, exposure to high altitudes has been linked to a higher incidence of molar pregnancy [6], possibly as a result of the decreased oxygen supply.

The clinical presentation

Although the clinical picture of a molar pregnancy can differ, common signs and symptoms include vaginal bleeding, an enlarged uterus disproportionate to gestational age, hyperemesis gravidarum (severe nausea and vomiting), and preeclampsia-like symptoms [7]. These symptoms frequently call for additional testing and diagnosis.

Management Approaches

In order to avoid complications like choriocarcinoma development or persistent trophoblastic disease, the primary goal of treating molar pregnancy is to remove the abnormal pregnancy tissue. Techniques like suction evacuation with ultrasound guidance or dilatation and curettage (DandC) are frequently used [11]. After the procedure, careful monitoring of hCG (human chorionic gonadotropin) levels is necessary to determine treatment effectiveness and look for signs of disease persistence or recurrence.

Results and Follow-Up

After proper management, the majority of molar pregnancies have successful outcomes with complete resolution. An underrepresented group of cases, however, may progress to gestational trophoblastic neoplasia, including choriocarcinoma, or develop persistent trophoblastic disease [12]. To identify any signs of disease progression and to start treatment as soon as necessary, it is essential to closely monitor -hCG levels and to follow up frequently.

Conclusion

The placenta grows abnormally in molar pregnancy, a rare and complicated pregnancy disorder. With reported rates ranging from roughly 1 in 468 pregnancies to 1 in 714 pregnancies, molar pregnancy is a condition that is prevalent in different populations and geographical areas. This disparity in prevalence rates can be explained by elements like study populations, research methods, and geographic differences. The likelihood of molar pregnancy has been linked to a number of risk factors. As potential risk factors, it has been determined that advanced maternal age, a history of molar pregnancy, genetic abnormalities in the ovum or sperm, and environmental factors like malnutrition and exposure to high altitudes should be taken into consideration. For early detection, proper management, and the implementation of preventive measures, an understanding of these risk factors is necessary.

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How to cite this article:
Emmanuel Ifeany Obeagu and Getrude Uzoma Obeagu. (2023). Molar Pregnancy: Update of prevalence and risk factors. Int. J. Curr. Res. Med. Sci. 9(7): 25-28.
DOI: http://dx.doi.org/10.22192/ijcrms.2023.09.07.005