

HYDATIDIFORM MOLE: A STATISTICAL SURVEY IN WEST OF IRAN

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ABSTRACT

Objective: To determine the incidence of hydatidiform mole in west of Iran.

Methodology: This study was carried out on pregnant women referring for delivery in Hamadan province in west of Iran. We retrospectively evaluated medical records of all referring subjects to medical centers in Hamadan province between 1997 and 2006. All pregnant women referred to 11 referral hospitals as well as obstetric care facility centers in the province were studied. We recorded all cases with hydatidiform mole. Data Processing and statistical analysis were performed using SPSS version 16.0.

Results: The incidence of hydatidiform mole in Hamadan province estimated 3.34 per 1000 pregnancies Between 1997 and 2006. It means 1 per 298.2 pregnancies had hydatidiform mole. The incidence rate of hydatidiform mole was considerably higher compared to reported from Japan, Turkey, Europe, USA, UK, China, Malaysia, whereas was lower than reported from Indonesia and India. The risk of recurrence rate of mole was higher than that reported in the UK, but lower than that shown in South Africa.

Conclusion: The incidence of hydatidiform mole in Hamadan province of Iran seems to be high. Therefore early and rapid diagnosis of gestational trophoblastic diseases in this region is strongly recommended.

Key Words: Hydatidiform mole, Incidence, Trophoblastic disease, Molar pregnancy, Hamadan province

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INTRODUCTION

Trophoblast proliferation is histologically characterized by abnormalities in chorionic villi such as stromal edema and villous trophoblast proliferation and classified as hydatidiform mole and gestational trophoblastic neoplasia after mole. Hydatidiform mole is an abnormal pregnancy that is divided to complete and partial forms based on histological characteristics¹. In mole, the chorionic villi are transformed to a mass of transparent vesicles and based on the type of mole that the fetal and amniotic fluid may not be existed. In complete mole, all or most of the chorionic villi are edematous. In these cases, the chromosome formula is 46XX that both X chromosomes may be taken from the father. In partial moles, villi are completely abnormal and chromosome formula is usually triploid^{2,3}. Mole symptoms include vaginal bleeding and elevated HCG hormone, however these manifestations can be remarkable in complete mole⁴. Hydatidiform mole, if not diagnosed and treated early is associated with increased risk of disease and mortality. The best ways of diagnosis of molar pregnancy are ultrasound (easy availability) and quantitative measurements of serum HCG¹. It highlights

the role that genetics can play in determining the origin of multiple molar pregnancies, which should be considered essential in providing women with accurate advice about their risk of recurrence^{5,6}.

Epidemiology of gestational trophoblastic disease is unknown and there is a significant difference in the incidence of this abnormality worldwide. The incidence ranges from 1 to 2 per 1000 pregnancies in Japan⁷, to 12 per 1000 in Indonesia and India^{8,9}. The estimated frequency of hydatidiform mole in Lombardy, northern Italy over the period 1996-2008 was 104.4 per 100,000 pregnancies or 1 case in 935 pregnancies¹⁰, or approximately 0.5 to 1 per 1000 pregnancy. In this context, the incidence of hydatidiform mole in different regions in our country has been remained unclear. Besides, the role of some predisposing factors such as parity, estrogen status, oral contraceptives, and nutritional habits in the incidence of gestational trophoblastic disease is unclear¹¹. Some studies showed an association between maternal age and the increased risk of hydatidiform mole, while some others have reported more incidences in younger mothers³. Since no study has been conducted on the incidence of hydatidiform mole in Hamadan,

a great province in western Iran, this study aimed to estimate the incidence of pregnancies with hydatidiform mole in this province.

METHODOLOGY

This study was carried out on pregnant women. It was a retrospective observational study conducted in Hamadan province between 1997 and 2006. All pregnant women referred to 11 referral hospital as well as obstetric care facility centers in the province for termination of pregnancy were retrospectively studied. Termination of pregnancy consisted of live birth, stillbirth, miscarriage, and the mole. The sampling method was census sampling. The file numbers of the affected patients were extracted by checking pathology and operating rooms registry records of hospitals. Information relating to the number of abortions and the deliveries related to the last 10 years was collected by the Census Department of Health in Hamadan city, Iran. The study data were collected by a special questionnaire including demographic characteristics, maternal age, gravity, previous history of molar pregnancy, history of abortion, and menstruation regularity. Data Processing and statistical analysis were performed using SPSS version 16.0.

RESULTS

The results showed that patients affected by H. mole, 19.89% were younger than 20 years, 69.42% aged 20 to 35 years, and 10.69% were aged more than 35 years. Regarding occupational state, 95.1% were housewife,

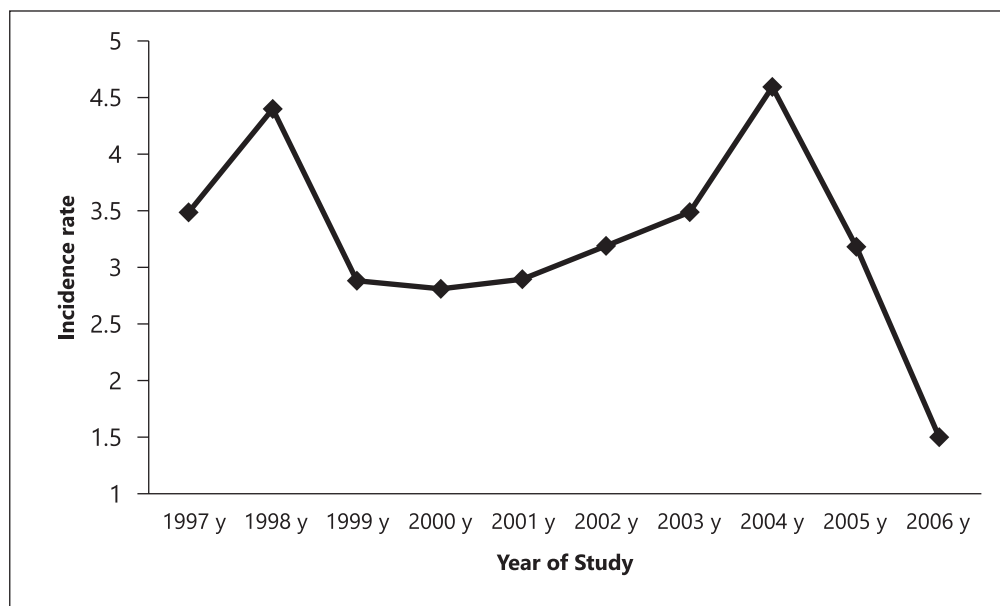
4.7% were employee, and only 0.2% had self-employment. More than half of the patients (50.6%) lived in urban areas. About 66.2% had multiple gestation pregnancies that among them, 9.19% experienced stillbirth and 26.6% had history of abortion with the symptom of spotting.

Between 1997 and 2006, 292262 pregnancies were reported. Among them, 26526 were reported as curettage and 980 cases were diagnosed as hydatidiform mole. Thus, the overall incidence rate of hydatidiform mole was estimated 3.34 per 1000 pregnancies and 3.70 per 1000 deliveries. Thus, one of every 27.1 delivery and one of every 298.2 pregnancy led to hydatidiform mole. Among the cases with mole, 53.29% were complete and 46.71% were partial mole. The recurrence rate of mole in patients with the history of pregnancies with mole was 2.6%. According to the trend curve analysis, the highest and the lowest incidence rates of hydatidiform mole was detected in 2002 and 2006, respectively. Thus, hydatidiform mole had two peaks of incidence in 1998 and 2004 with a total alternative trend. In 60.41% of cases, sonography was requested, for diagnosis of H. mole. To confirm the diagnosis in all cases, pathological assessment was done.

DISCUSSION

Based on our study results, the overall incidence rate of hydatidiform mole between 1997 and 2006 was 3.34 per 1000 pregnancies that one of every 298.2 pregnancy resulted in hydatidiform mole. The obtained in-

Figure 1: Trend of the changes in the incidence of hydatidiform mole in Hamadan province between 1997 and 2006



idence rate in our province was considerable higher compared to the incidence rate reported from Japan (2 per 1000 pregnancies), Turkey (2.36 per 1000 pregnancies), Europe and the United States (0.6 to 1.1 per 1000 pregnancies), the United Kingdom and Wales (1 per 714 live births), China (2.66 per 1000 pregnancies), Malaysia (2.43 to 2.8 per 1000 pregnancies), Hispanic women (2.38 per 1000 pregnancies), Okinawa (2.29 per 1000 pregnancies) and West Indies was found to be 2.81 per 1,000 which fell in the range of worldwide values. Partial moles made up 61.1% and complete moles 31.0%^{3,12-15}, whereas was lower compared with the reports from Indonesia and India (12 per 1000 pregnancies)¹⁶. Also, reported incidence rate of mole in other regions in our country had a wide spectrum between 8.7 - 1.85%¹⁷.

In our survey, the risk of recurrence rate of mole in those with the previous history of mole was 2.6% that was higher than that reported in the United Kingdom (less than 1%), but inversely lower than that shown in South Africa (5.1%)¹⁸.

In the present observation, the maximum incidence rate of hydatidiform mole was detected in the age range 20 to 35 years that was consistent with other studies^{3,17}, but was contrary to some other reports that estimated the peak of incidence at both sides of the age spectrum¹⁹. Also, we showed an alternative trend of the incidence of mole with the two peaks in 1998 and 2004. According to the findings of Tham, the incidence of gestational trophoblastic disease is increasing over time that the increase in the Asian population was higher than the non-Asian population¹⁸. Besides, a study on Taiwanese population showed a decreasing trend of the incidence of this abnormally. It seems that the trend of the changes in the incidence of hydatidiform mole is dependant to different conditions such as socioeconomic status, nutritional habits and development of medical facilities²⁰.

The highest death rates were due to high-risk gestational trophoblastic neoplasia. Patients with molar pregnancy should be referred to a referral center for an early diagnosis and prompt treatment in order to reduce the morbidity and mortality. The overall survival was 94%, with a median follow-up of 4.69 years²¹⁻²³.

CONCLUSION

The development of accurate diagnostic facilities such as histopathological assessments and advanced imaging tools can be effective to reduce morbidity and mortality of this abnormality in our region.

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CONTRIBUTORS

SA and FSh carried out the study design, participated in data collection and drafted the manuscript. SA participated in the design of the study and performed the statistical analysis. SA, FSh and SMH conceived of the study, and participated in its design and coordination. All authors read and approved the final manuscript.