Analysis of Patients with Recurrent Molar Pregnancy in Tertiary Care Hospital

Chandra Madhudas, Farkhunda Khursheed and Pushpa Srichand

Department of Obstetrics and Gynaecology, Liaquat University of Medical and Health Sciences, Jmahsoro, Sindh, Pakistan

Abstract: This descriptive study was conducted on patients for determination of the frequency and risk factors for recurrent molar pregnancy at Department of Obstetrics and Gynecology Unit-II, Liaquat University Hospital Hyderabad Sindh during Jan 2005 to Dec 2008. A retrospective review of patients admitted with molar pregnancies was carried out. Patients were scrutinized by history, clinical examination and investigations. Those with molar pregnancy more than once were considered as recurrent molar. A pre-designed proforma was filled to analyze risk factors. Out of 120 complete moles, subsequent pregnancies were affected by recurrent complete hydatidiform moles in five patients giving a frequency of 4.16%. All five had no live issue. Three patients out of five had positive family history of recurrent molar and cousin marriage while in two patients there was no positive family history of molar or cousin marriage. Strong family history and consignors marriages were the risk factors for recurrent molar pregnancy.

Key words: Hydatidiform moles • Recurrent molar pregnancy • Genetic predisposition

INTRODUCTION

The world health organization has classified gestational trophoblastic diseases into two pre-malignant diseases termed complete hydatidiform mole (CHM) and partial hydatidiform mole (PHM) and three malignant disorders, invasive moles, gestational choriocarcinoma and placental site trophoblastic tumors [1]. Hydatidiform moles can be classified on the basis of histological examination and genetic origins as complete or partial hydatidiform moles. Partial hydatidiform moles are genetically nearly all triploid with two paternal and one maternal chromosome sets [2]. Triploid due to two sets of maternal chromosome does not become PHM. CHM are generally diploid and androgenetic in origin, all 46 chromosomes being derived from the father. They may be monospermic, arising by fertilization of an enucleate egg by a single spermatozoa which then doubles or dispermic by fertilization of an enucleate egg by two spermatozoa. Rarely CHM can be Biparental in origin having chromosome complement from both partners [3].

Recurrence is rare complication of hydatidiform moles, although it only occurs in 2% [4] of cases, but identification of genetic origin of repetitive hydatidiform moles is important since it is related with recurrence in future, there is increase risk of malignancy, future fertility is compromised and there are limited treatment options. Patients with recurrent hydatidiform moles can be divided into two groups. Those patients with positive family history of recurrent complete moles and consanguinity usually genetically are Biparental as proved by many studies [5-7]. Specific gene defect in these families has not been identified; genetic mapping has shown that in most families the gene responsible is located on a 1.1mb region on chromosome 19 q.13.4. Mutation in this gene is responsible for abnormal ovum leading to Biparental CHM, this is inherited as autosomal recessive disorder [8]. Patients with personal history of recurrent moles without positive family history of recurrent moles and consanguinity have usually androgenetic complete hydatidiform moles [9]. But, rarely things can occur vice versa. This study was carried out to see the prevalence of recurrent molar pregnancy in our patient and see what diagnostic and treatment options are available in our setup, where facility of molecular genetic study is not available.

MATERIALS AND METHODS

This descriptive study was conducted at Gynae Unit-II, LUMHS during Jan 2005 to Dec 2008. Departmental approval for the study was obtained. A
A retrospective review of case records of patients admitted during the study period was made. Data was collected in a redesigned proforma.

All patients presented with complete hydatidiform moles and those who presented with recurrent complete hydatidiform moles with no normal conception in between pregnancies were included in the study. Patients presented with partial hydatidiform moles and with hydropic abortions were excluded from the study. The data was entered and analyzed by SPSS (Version 10).

**RESULTS**

During the study period, out of 120 patients with hydatidiform mole while five presented with recurrent complete molar pregnancies giving prevalence of 4.16%. The diagnosis of hydatidiform mole was confirmed on histopathology. The relevant detail of every case is presented in Table 1.

**DISCUSSION**

Incidence of CHM is variable, complicating 1/1000 to 1/2000 pregnancies in the United States and 1/125 in some high incidence areas in Southeast Asia. In the Middle East, where many familial cases of highly recurrent BiCHM originate, the incidence is about 1/500 [10]. The incidence of recurrence after one CHM ranging from 0.6-2.3% and 15-28% after two CHM [11]. Prevalence of recurrent complete hydatidiform molar pregnancy in the current study was 4.16% which is more than studies from different parts of the world [12, 13].

In Pakistan, though the studies on trophoblastic disease [14-16] are carried out, but there is no study on recurrent molar pregnancy to report incidence of this condition. The high prevalence of recurrent complete hydatidiform moles in current study may be either by chance or may be that we only included cases in which histopathology confirmed CHM excluding partial moles or hydropic abortions. This is also fact that we fall in Middle East whereas maximum number of recurrent complete hydatidiform moles was reported. In our study, three patients out of five had strong family history of recurrent molar pregnancies and consanguinity. Familial recurrent CHM are usually Biparental as proved by recent genetic study of two families in which several sisters had one or more CHM [5] in one family in particular there was a strong history of consanguinity as in three of our patients. Genetic origin of complete hydatidiform moles in our study was not examined, the reason being that it is expensive investigation and our patients could not afford it, we can assume that three of these patients may had Biparental complete hydatidiform mole. Our two patients had three consecutive complete molar pregnancies without a live issue, but no family history of molar or consanguinity; this may be androgenic CHM as proved by JJ vander smegt in genetic study in two of his patients with history of recurrent molar pregnancy but no family history of molar and consanguinity.

Recurrent CHM has significant clinical pathological implication including risk of malignant squeal and poor reproductive performance. Risk of persistent trophoblastic disease is similar both in BiCHM and AnCHM. This risk is 22% after first molar and 50% after 2nd molar pregnancies [17]. So for genetic counseling and treatment options are concerned making the distinction between BiCHM and AnCHM is important, women having BiCHM have close to 100% risk of adverse pregnancy outcome, while women with AnCHM have reasonable chance of having healthy children. Genetic aspect in our study was not possible, but from history and review of literature we can assume that three of our patients may have BiCHM, so for fertility is concerned option for them is either sterilization or ovum donation. While our two patients may have AnCHM and in that case there is number of options like changing the partner, IVF with donor sperm, ICSI combined with pre-implantation genetic diagnosis (PGD). Our study has proved that prevalence of recurrent molar pregnancies is more in our part of world as compare to other part of world; we there fore propose that in future cases of woman with two or more CHM should be investigated by molecular techniques.

<table>
<thead>
<tr>
<th>No. of Cases</th>
<th>Age (years)</th>
<th>Gestational age (weeks)</th>
<th>Gravida</th>
<th>Para</th>
<th>Family history / cousin marriage</th>
<th>Past history</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>30</td>
<td>12</td>
<td>06</td>
<td>0+5</td>
<td>+ve</td>
<td>+ve</td>
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<td>08</td>
<td>08</td>
<td>0+7</td>
<td>+ve</td>
<td>+ve</td>
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<td>05</td>
<td>0+4</td>
<td>-ve</td>
<td>+ve</td>
</tr>
<tr>
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<td>26</td>
<td>12</td>
<td>04</td>
<td>0+3</td>
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</tr>
<tr>
<td>05</td>
<td>24</td>
<td>08</td>
<td>03</td>
<td>0+2</td>
<td>-ve</td>
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</tbody>
</table>
CONCLUSION

Keeping in front the result of current study, it looks that recurrent molar pregnancy is being ignored in our part of world. As it is related to childlessness, psychological trauma and increase chance of malignancy in future. It is recommended that patient who present with recurrent molar pregnancy should be offered genetic testing to reach the definite diagnosis so that couple can be helped out to plain future pregnancy.

REFERENCES