دور القرابة بين الزوجين في ازدياد أمراض الرحى العدارية في عينة من مريضات مستشفى دار التوليد الجامعي بدمشق ما بين (2007 – 2009)

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الملخص

خلفية البحث وهدفه: تشكل آفات الأرومة الغاذية الحملية طيفاً من الحالات تراوح بين السلامة (الرحى العدارية التامة والجزئية وهي الأكثر شيوعاً)، وبين الخباثة (الرحى الغاذية ، السرطان البشروي الحملي والورم الناشئ في موضع المشيمة)، لوحظ أن هناك عواملَ كثيرة قد تكون سبباً أو تكون عواملَ مساهمة في حدوث أمراض الأرومة الغاذية الحملية. من هذه الأسباب أو العوامل: صلة القرابة، والتغذية، والعرق، والوراثة ، وحبوب منع الحمل والإنتانات الفيروسية.

الهدف: دراسة تأثير صلة القرابة بين الأزواج في أمراض الأرومة الغاذية.

مواد البحث وطرائقه: أجريت الدراسة (دراسة مستقبلية) في شعبة أمراض الأرومة الغاذية في مستشفى التوليد وأمراض النساء الجامعي بدمشق ما بين (16/ 2/ 2007 – 16/ 2/ 2009)، وبلغ عدد مريضات الرحى العدارية ستين حالة، شخصت بواسطة الصدى وتم تأكيد التشخيص نسيجياً، وقد خضعت المريضات جميعهن للإفراغ بالممص الكهربائي ثم بالتجريف الحاد، وأرسلت العينات جميعها إلى التشريح المرضي. جمعت المعلومات حول المريضات عن طريق استبيان يحتوي على عشرين سؤالاً، من بينها سؤال حول علاقة القرابة بين الأزواج.

النتائج: شكلت الرحى التامة من 24 حالة (40%) و الجزئية من 36 حالة (60%) من مجموع المريضات، وقد كشفت الدراسة عن عدم وجود علاقة بين الرحى العدارية التامة وزواج الأقارب، وكذلك بين الرحى الجزئية وزواج الأقارب.

الاستنتاج: ليس هنالك علاقة بين زواج الأقارب وبين الرحى التامة والرحى الجزئية، لذلك لا يشكل زواج الأقارب عامل خطورة في زيادة حدوث أمراض الأرومة الغاذية الحملية.

كلمات مفتاحية: أمراض الأرومة الغاذية الحملية، القرابة، الرحى التامة، الرحى الجزئية، الرحى العدارية.

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Does Consanguinity Increase the Risk of Hydatidiform Mole in a Sample from the Department of Obstetrics & Gynecology at Damascus University Hospital

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Abstract

Background: There are several types of gestational trophoblastic disease (GTD). Some forms are malignant (invasive mole placental site trophoblastic tumor choriocarnoma) and others are benign and it is most common (complete mole and partial mole).

The most common forms of GTD are complete hydatidiform mole and partial hydatidiform mole. It is noted that consanguinity, malnutrition, race, genetic predisposing, oral contraceptives and viral infections have been linked as causative or contributory factors.

Objective: To study the effect of consanguinity on the incidence of hydatidiform mole disease.

Material & Methods: This prospective study was carried out in The Department of Obstetrics and Gynecology of Damascus University Hospital, between (16/2/2007 – 16/2/2009). During this period 60 cases of Hydatidiform mole were diagnosed by ultrasound and confirmed by histopathology.

All patients underwent suction and sharp curettage, and the specimens were sent to histopathology.

Further information about these 60 cases was collected by Questionnaires (20 questions) .One of these questions was consanguinity between parents (i.e. the parenting couples).

Results: The result showed that there was no statistically significant association between complete mole and parents' consanguinity. In addition, there was no significant relationship between partial mole and parents' consanguinity.

Conclusion: There is no significant relationship between parents' consanguinity and complete and partial mole. Therefore, there is no-risk factor of consanguinity in Gestational trophoblastic disease.

Key words: Gestational trophoblastic disease, Parents Consanguinity, Partial mole, complete mole, Hydatidiform mole.

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Introduction & Literature review

Gestational Trophoblastic Disease (GTD) is a rare condition in which trophoblastic tissues around the fertilized egg proliferate to form an abnormal cluster of cells. It is classified into Hydatidiform mole, invasive mole, placental site trophoblastic tumor and choriocarcinoma. Clinically the uterus is larger for the corresponding dates. The condition is recognized by sonographic appearance of abundant grape like structure caused by diffused exuberant hydropic changes [1].

Hydatidiform mole (HM) is the most common form of gestational trophoblastic disease, and is characterized by a typical hyperplastic trophoblastic cells and cavitory hydropic villi. HMs is divided into two types: Complete hydatidiform moles (CHMs) and Partial hydatidiform moles (PHMs), according to their histology and ultrasonographic appearance.

CHMs are characterized by hydropic villi, general trophoblastic proliferation, and the absence of fetal tissues and amniotic membranes [2, 3].

PHMs have a mixture of normally appearing villi and hydropic villi, focal hyperplasia and fetal tissues. CHMs are generally diploid and lack maternal genetic contribution in at least 86% of cases [4], a condition known as androgenetic CHM [5].

PHMs are generally triploid with one haploid maternal set of chromosomes and two haploid paternal sets of chromosomes, a condition known as diandric triploidy. [2, 3]

Hydatidiform mole occurs one in every 1500 pregnancies in the USA, with partial moles constituting up to 50% of these cases [6]. The incidence is 5 – 15 times higher in Eastern Asia, Japan, Indonesia and Iran [6].

Studies showed a significant increase in risk in women with pregnancy above the age of 35 years with further increase of 10 folds beyond the age of 40 years [15], it is noted that consanguinity, malnutrition, racial and genetic predisposing, oral contraceptives and viral infections have been linked as causative or contributory factors[16].

Material and Methods

The study was carried out in The Department of Obstetrics and Gynecology, Damascus University Hospital between (16/2/2007 – 16/2/2009) during this period, 60 cases of Hydatidiform mole were diagnosed by ultrasound and confirmed by histopathology, among 56,432 pregnant women.

All patients underwent suction and sharp curettage, and the specimens were sent to histopathology.

More information about these 60 cases was collected by Questionnaires (20 questions).One of these questions was consanguinity between parents.

Results

During the study period, there were 60 cases of molar pregnancies: 24 cases were complete mole (40%), and 36 cases partial mole (60%). As shown in Table 1.

Table 1: Distribution of Study Sample by mole type

Mole type	Frequency	Percentage
Complete	24	40%
Partial	36	60%
Total	60	100%

The women who had complete mole and a parent's consanguinity were 5 cases (20.83%), and those without parent's consanguinity were 19 cases (79.17%). The women who had partial mole and parents consanguinity were 20 cases (55.6%), and those without parents' consanguinity were 16 cases (44.4%) as shown in Table 2.

Table 2: Incidence of complete mole and partial mole among the Study Sample by Parents consanguinity

Parents consanguinity	Complete Mole		Partial Mole	
	Frequency	Percentage	Frequency	Percentage
Yes	5	20.83%	20	55.6%
No	19	79.17%	16	44.4%
Total	24	100%	36	100%

Table 3: The consanguinity in the study sample according to risk factor and study group (complete or partial mole).

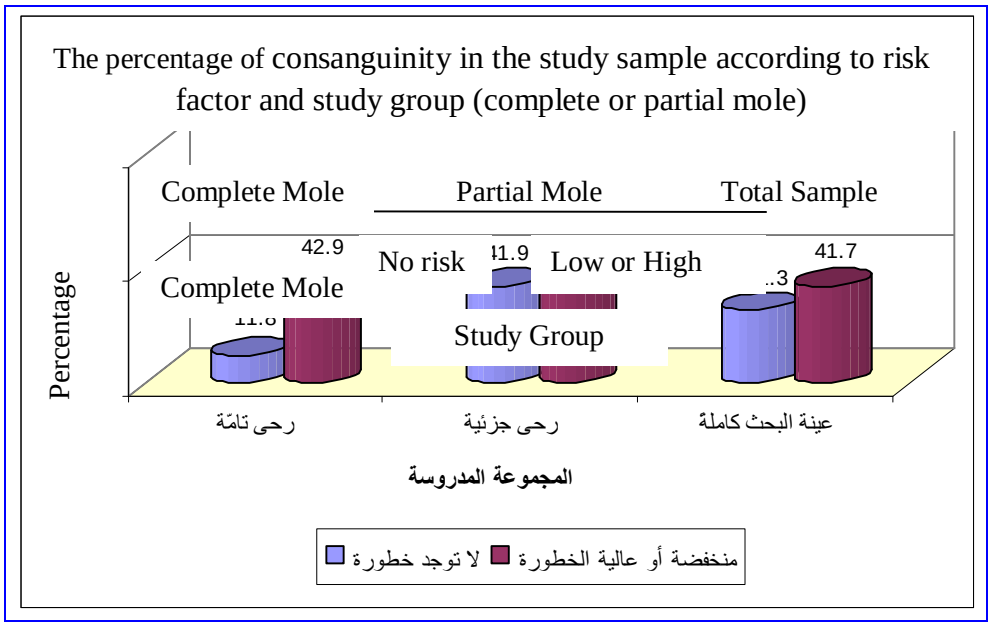
Study Group	Risk Factor	No. of patients			Percentage (%)		
		No Consanguinity	Consanguinity	Total	No Consanguinity	Consanguinity	Total
Complete Mole	No Risk Factor	15	2	17	88.2	11.8	100

	Low or High Risk Factor	4	3	7	57.1	42.9	100
Partial Mole	No Risk Factor	18	13	31	58.1	41.9	100
	Low or High Risk Factor	3	2	5	60.0	40.0	100
Total Sample	No Risk Factor	33	15	48	68.8	31.3	100
	Low or High Risk Factor	7	5	12	58.3	41.7	100

Table 4: Chi-Square test of consanguinity in no risk factor and low- or high- risk factor according to study group

Variable under study = consanguinity*Risk Factor					
Study Group	No. of Patients	Free Degree	Chi-Square	P-Value	Significant Differences
Complete Mole	24	1	2.906	0.088	No
Partial Mole	36	1	0.007	0.935	No
Total Sample	60	1	0.469	0.494	No

Figure 1: The percentage of consanguinity in the study sample according to risk factor and study group (complete or partial mole)



Chi-square test was used to study the significance of the differences between the frequencies of the consanguinity between the parents belonging to the no-risk factor group and low- or high-risk factor group in the study sample group (complete or partial mole) as shown in table 4.

In the above table it can be seen that P-value is much larger than 0.05 regardless of the studied group, and in the whole study sample which means that in confidence level % 95 there is no statistically significance differences in the frequencies of the consanguinity between the parents belonging to the

no-risk group and low- or high-risk group in the study sample group, regardless of the studied group.

Discussion

During three years of study, we examined 56,432 pregnant women of which 60 cases had gestational trophoblastic disease (GTD). This study reveals that the ratio of GTD is 1.06/1000 pregnancies. Sixty cases were diagnosed as hydatidiform mole: 60% were partial moles and 40% were complete moles.

The incidence rate varies in different regions of the world, 1 / 1000 pregnancies is reported in United State while 10 / 1000 pregnancies is reported from Indonesia [7], 1.9/1000 pregnancies in Japan, and 12.9/1000 deliveries in Turkey [10]. The rates in Asian countries are nearly three times higher than those of European countries and USA [9].

In another study from Japan (16829 cases were seen from 1974 – 1982). The rate of hydatidiform mole ranged from 2.83 to 3.05/1000 live births [12].

The most reliable and worldwide accepted reports calculated from China by coordination research group of corioma (choriocarcinoma, chorioepithelioma, chorioma, chorionic carcinoma) (NCRG) reported an incidence rate of 0.81/1000 pregnancies [13].

The incidence rate in this study was close to world incidence. It is noted that consanguinity, malnutrition, racial and genetic predisposition, oral contraceptives and viral infections have been linked as causative or contributory factors [14].

The present study was done to compute consanguinity between parents as a risk factor responsible for gestational trophoblastic disease (GTD).

International data have conflicting reports regarding race, ethnic, diet, socioeconomic and geographical locations for etiology, contributing to risk for (GTD).

Studies from Mexico, Taiwan and Philippines suggest that dietary deficiency is considered as a plan a predisposing role for developing hydatidiform mole [8]. Reports from Korea and Turkey also favor the idea that rate is high in people with low socioeconomic and poor educational status [10, 11].

The reports revealed that rates are high in Asia, followed by Africa, Latin America, Europe and Australia .White races demonstrated the lowest rates, with blacks and other races having 2.1 and 1.8 fold elevated risk [14].

Regarding the role of consanguinity as a risk factor for GTD, there are no available reports about consanguinity as a risk factor for GTD.

In this study, we showed that there was no statically significant association between complete mole and partial mole and consanguinity between parents.

Conclusion

There is no significant relationship between parent's consanguinity and complete and partial mole, so there is no-risk factor of consanguinity in Gestational trophoblastic disease.

Recommendation

- We need further national and international studies about parent's consanguinity and Hydatidiform mole.
- We need further national and international studies to show whether the parents' consanguinity is a risk factors for GTD. In addition, to identify whether there is an increased risk of GTD among consanguineous parents or not (as, for example, some genes).

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