

EPIDEMIOLOGICAL STUDY OF GESTATIONAL TROPHOBLASTIC NEOPLASIA

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SUMMARY

An epidemiological study was conducted out of a total number of 136 cases of Gestational Trophoblastic Neoplasia (GTN) admitted at the Eden Hospital, Medical College, Calcutta during the last 6 years from 1987 to 1992. An attempt was made to evaluate high risk population for this condition with a view to diagnose and treat early. A very high incidence was found among young age group, 15 to 25 years, nulliparous or low parity (P_{1+2}), low socioeconomic status, thin built, poor protein intake in the diet, blood groups of partners either A x A or O x O and complete moles type.

In recent years genetic studies have cast an entirely new light on the possible aetiology of hydatidiform mole and choriocarcinoma. Hence they demand a revision of our knowledge and understanding of their epidemiology (Belfort and Viggiano, 1988). Identification of the risk population for these diseases and their characteristics and subsequent management protocol are of immense value for the prevention and control of the disease. Extensive studies on the Gestational Trophoblastic Neoplasia (GTN) have shown its unique geographical distribution with an unprec-

edented preponderance in Asian countries including India. The present study has been undertaken to evaluate the various epidemiological factors associated with a view to identify the high risk population for GTN in this part of the Asia. The current review focuses on the following:

- (a) incidence of types of GTN,
- (b) study on maternal age, parity, types of mole, socioeconomic status, habitation, diet and ABO blood groups in relation to the disease;

A retrospective study of 136 cases of GTN treated at the Eden Hospital, Medical College, Calcutta during the period from 1987 to 1992 (6 years) was conducted.

RESULTS AND ANALYSIS

Table I
Incidence and Types of GTN (1987 - 1992)

Total delivery	GTN		Incidence
46558	136		1/342
	Hydatidiform mole	Choriocarcinoma	
	112	24	1/416 (H. mole) 1/1940 (Ch. CA and PTD)

In the present study, the incidence was 1 in 342 deliveries. Previous reported incidence revealed wide variation. This variation was perhaps due to relation to variables as total admission, deliveries and inclusion of early pregnancy wastage.

Table II
GTN in Relation to Maternal Age

Age group (yrs)	GTN			Incidence
	H. mole	PTD	Ch. CA	
15 - 25	84	5	10	99 (72.8%)
26 - 35	24	1	4	29 (21.3%)
36 and above	4	1	3	8 (5.9%)

Majority of the patients were in the age group of 15 to 25 years (72.8%).

Table III
GTN in Relation to Parity

Parity	GTN			Incidence
	H. mole	PTD	Ch. CA	
0	46	6	8	60(44.0%)
1 to 2	50	1	6	57(42.0%)
3 and above	16	-	3	19(14.00%)

Majority of the cases were nulliparous i.e. first conception ended in GTN and together with the cases of parity 1 and 2 comprise 86% cases.

Table IV
GTN in Relation to Socioeconomic Status

Socioeconomic status	Cases	Incidence (%)
High (More than Rs. 2,000/-/month)	2	1.4
Intermediate (Rs. 1,000/- to 2,000/-/month)	36	26.6
Low (less than Rs. 1,000/-/month)	98	72.0

Majority of the patients i.e. 98 (72%) belonged to low socioeconomic status. Most of the patients were housewives and had primary education. Majority were non-vegetarian and used to take a mixed diet consisting mainly carbohydrates specially rice with poor intake of protein and fat. Majority were thin built. With regard to habitation majority i.e. 98(72.0%) were rural habitant and 38(28.0%) belonged to urban areas.

Table V
GTN in Relation to Blood Groups (ABO)

Blood Group	H. mole	GTN PTD	Ch. CA	Total with incidence
O	50	2	3	55 (40.4%)
A	50	5	10	65 (47.8%)
B	6	-	2	8 (5.9%)
AB	6	-	2	8 (5.9%)

In this study women with blood group A were most susceptible for GTN (47.8%) and next to this were blood group O (40.4%)

DISCUSSION

In this study, an attempt was made to highlight the various epidemiological factors with a view to identify highrisk population for the trophoblastic disease. Majority of the cases in this study were in the age group of 15 to 25 (72.8%). Ratnum (1975) reported that the

incidence of hydatidiform mole was higher in teenagers and in elderly women, above 40 years. Majority of the cases were nulliparous or belonged to parity 1 or 2. First pregnancy ended in GTN in 60 cases (44%). Majority of the cases were from low socioeconomic group (72%). Similar report was obtained from

Table VI
ABO Blood Group of the Husbands

Blood Group	H. mole	GTN		Incidence
		PTD	Ch. CA	
O	50	2	4	56 (41.2%)
A	35	5	10	50 (36.8%)
B	27	-	2	29 (21.3%)
AB	-	-	1	1 (0.7%)

Majority of the husbands belonged to O group and blood groups O and A together comprise 106 cases (78.0%).

Singapore (Ratnum, 1975). He mentioned that poor communities area affected more than affluent area. Belfort and Viggiano (1988) from Brazil reported a high incidence of the disease (1 in 120 deliveries) for hydatidiform mole. This high incidence inspite of the country's economic affluence is perhaps higher incidence of referral cases and early marriage and childbirth at a very young age. While studying the blood groups, it was observed that blood groups of the partners A x A and O x O were maximum amongst the cases. The present study did not show any higher incidence in mixed mating. A group women married to O group husband.

Bagshawe et al (1981) mentioned of higher incidence in mixed mating (A group women married to O group husband).

ACKNOWLEDGEMENT

Authors acknowledge the kind permission of the Principal and the Superintendent for access to hospital records.

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