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INCIDENCE OF TROPHOBLASTIC TUMORS: A RETROSPECTIVE CASE STUDY AT RIMS RANCHI

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ABSTRACT **Background:** The gestational trophoblastic diseases encompass a wide range of conditions that vary in their clinical presentation, their propensity for spontaneous resolution, local invasion and metastasis and their overall prognosis. Advanced or adolescent maternal age has consistently correlated with higher rates of complete Hydatidiform mole. **Material and Methods:** It is a retrospective record based study, performed in Department of pathology RIMS, Ranchi. Study population included all cases which were clinically suspected of gestational trophoblastic disease, with common clinical presentation of abnormal vaginal bleeding, amenorrhea, pain abdomen, from January 2017- December 2020. **Results:** Hydatidiform mole was found to be the most common form of gestational trophoblastic diseases. Our study shows maximum cases of GTD falls in the age group of 20-29 years followed by 30-39 years.

KEYWORDS : gestational trophoblastic tumor, hydatidform mole, histopathological examination.

INTRODUCTION

The gestational trophoblastic diseases encompass a wide range of conditions that vary in their clinical presentation, their propensity for spontaneous resolution, local invasion and metastasis and their overall prognosis. Gestational trophoblastic diseases are the lesions of trophoblasts with varying proliferative capacities ranging from non-neoplastic hydatidiform mole (complete hydatidiform mole, partial hydatidiform mole, invasive mole) to bonafide neoplastic conditions gestational choriocarcinoma, placental site trophoblastic tumor and epithelioid trophoblastic tumor [1,2,9]. In addition, two tumor like conditions are also included i.e exaggerated placental site reaction and placental site nodule or plaque[3]. Molar pregnancies and gestational trophoblastic neoplasms all take their origin from the placental trophoblast. Normal trophoblast is composed of cytotrophoblast, syncytiotrophoblast, and intermediate trophoblast. Syncytiotrophoblast invades the endometrial stroma with implantation of the blastocyst and is the cell type that produces human chorionic gonadotropin (hCG). Cytotrophoblast functions to supply the syncytium with cells in addition to forming outpouchings that become the chorionic villi covering the chorionic sac. The villous chorion adjacent to the endometrium and basalis layer of the endometrium together form the functional placenta for maternal-fetal nutrient and waste exchange. Intermediate trophoblast is located in the villi, the implantation site, and the chorionic sac. All 3 types of trophoblast may result in GTD when they proliferate[7,8]. Maternal age, reproductive and obstetric history, genetic factors, familial clustering, parental blood groups, viral infection, ethnic differences, and environmental and lifestyle factors have been considered as potential etiologic risk factors for development of Hydatidiform mole [5]. Extremes of maternal age and a patient's medical history of GTD are established risk factors for GTD [4]. Advanced or adolescent maternal age has consistently correlated with higher rates of complete Hydatidiform mole, which has been observed in many countries, including those in Asia, Europe, and North America [6].

Histologic examination of uterine evacuation specimens is essential for Hydatidform mole diagnosis. Distinguishing among complete mole, partial mole, and hydropic abortus at earlier gestational ages is difficult and sometimes impossible using light microscopy alone. When pathologic findings are also not definitive, accurate diagnosis is performed through ancillary methods, including immunostaining and DNA subcategory code as complete or partial Hydatidform mole. Unlike other malignant tumors, the diagnosis of GTN is made primarily based on combined clinical presentation and pathologic criteria. Based on GTN subtype, histological confirmation may be problematic in the absence of definitive histologic specimens and should be correlated with serum - human chorionic gonadotropin levels and radiological findings.[10]Though these diseases are relatively rare, GTD is a completely curable disease; nevertheless, correct diagnosis and vigilant follow-up is important in order to maximize the outcome for these patients. An estimated 1-3/1000 pregnancies are affected by benign hydatidiform moles. The prevalence varies from one country to another: the rates are double in Southeast Asia among Eurasians people as compared with Chinese, Malaysian, or Indian origin. It is estimated in United State the rate is to be around 0.75-1/1000. Around 10% of all hydatidiform moles become malignant; an estimated 8-15% of complete and 1.5-6% of partial hydatidiform moles. Around 8% of women with a previous molar pregnancy will develop persistent trophoblastic disease (i.e. recurring hydatidiform moles). In India, post-molar GTD was recorded 20.4%, which is very high, but still accurate figures are ambiguous.

MATERIAL AND METHODS

It is a retrospective record based study, performed in Department of pathology RIMS, Ranchi. Study population included all cases who were clinically suspected of gestational trophoblastic disease, with common clinical presentation of abnormal vaginal bleeding, amenorrhea, pain abdomen, from January 2017- December 2020. All the uterine evacuation specimens were routinely processed as per standard protocol to obtain tissue paraffin blocks, then sections were taken and stained by haematoxylin and eosin stain. Detailed microscopic evaluation was done and diagnosis was given as per WHO classification of GTD. Study procedure involves case reports having patients age, religion and site of implantation (intrauterine or ectopic). The epidemiological data of gestational trophoblastic disease were compared and analysed.

RESULT AND DISCUSSION

In our present study of 290 cases which were cinically suspected of GTD, having some common symptoms of abnormal vaginal bledding, amenorrhea, pain abdomen, 254(87.6%) were found to be negative for GTD. 34(11.72%)

were diagnosed as Hydatidform mole in which 2 cases were invasive mole. 2(0.7%) were diagnosed with choriocarcinoma. Table-1 shows relative incidence of GTD. Out of all GTD, 94.4% were Hyadatidform mole and only 5.6% were diagnosed with Choriocarcinoma. PSTT and ETT is a rare entity.

TABLE – 1
DISEASE-WISE INCIDENCE OF CASES

Disease	No. Of Patients	Percentage (%)
Hydatidiform mole (Complete mole, incomplete mole, invasive mole)	34	11.72
Choriocarcinoma	2	0.7
PSTT (Placental site trophoblastic tumor)	0	0
ETT (Epitheloid trophoblastic tumor)	0	0
Normal product of conceptus	254	87.58
Total	290	100

Our study shows maximum incidence of GTD is in age group 20-29 years i.e 25 cases (69.4%). 7(19.4%) cases in age group 30-39. Table-2 shows relative incidence of GTD in different reproductive age groups. Ramalingappa et. al. also reported high incidence of Hydatidform mole among all the GTD[9].

TABLE – 2
AGE GROUP-WISE INCIDENCE OF CASES

Age groups	Number of Patients	Percentage
<20	2	5.6
21-29	25	69.4
30-39	7	19.4
40-49	2	5.6

CONCLUSIONS

Hydatidiform mole was found to be the most common form of gestational trophoblastic diseases. In our study maximum cases of GTD falls in age group 20-29 years followed by 30-39 years. It is recommended that females who are having symptoms of abnormal vaginal bleeding, amenorrhea or associated with pain abdomen must be evaluated for GTD.

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