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Original article ■

Changes in the Incidence of Gestational Trophoblastic Disease - 2000-2010 - Our Experience

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SUMMARY

Gestational trophoblastic disease (GTD) is a group of rare tumors that involve abnormal growth of cells inside a woman's uterus.

The aim of the paper was to report the incidence of GTD in the University Hospital Center during a ten-year period.

The retrospective analysis involved all medical records of women who were treated for GTD in our clinic. Histopathologic report of abortion specimen with gestational trophoblastic disease was registered and we calculated the incidence of births, abortions and total pregnancies.

There were 104 patients who were treated in our clinic. The overall incidence of GTD was 1,26 per 1000 deliveries.

According to our experience, a lower socio economic status may be a risk factor for GTD, apart from younger age, at least one delivery and more abortions in anamnesis.

Key words: **gestational trophoblastic diasease, incidence**

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INTRODUCTION

Gestational trophoblastic disease (GTD) is a spectrum of tumors with a wide range of biologic behaviors and potential for metastases. GTD refers both to benign and malignant entities of the spectrum and include hydatidiform mole (HM), invasive mole (IM), choriocarcinoma (CH), and placental site trophoblastic tumor (PSTT) (1). The incidence of hydatidiform mole varies in different regions of the world; however, a declining trend has been reported. In North America, the incidence is approximately 0.6 to 1.1 per 1000 pregnancies; the rate is approximately three times higher in Asia. Choriocarcinoma in North America occurs in one per 20.000 to 40.000 pregnancies (2). These regional variations have been reported with many speculative factors as ethnic origin, blood group, age, parity, diet and nutrition, contraception, socio-economic status, immunologic factors and genetic constitution.

The aim of our study was to evaluate the incidence of the GTD. We also specified therapeutic features used in our country and compared them to those proposed in the literature and finally suggested concrete recommendations.

METHOD

We retrospectively studied the cases of GTD proved histologically, being reported during the ten - year period (January 1, 2000 - December 31, 2010) in the Clinic of Gynecology and Obstetrics, Clinical Center of Serbia. The diagnosis of molar pregnancy was based on the pathological criteria defined by Szulman and Surt (3). The occurrence of patterns, distribution of the disease according to the International Federation of Gynecology and Obstetrics (FIGO) and World Health Organization (WHO) scoring system, age distribution (more or less than 40 years), parity and treatment modalities were evaluated and analyzed from the hospital medical records.

RESULTS AND DISCUSSION

There were 104 patients who were treated in our clinic. The total number of deliveries was 82. 407. The overall incidence of GTD was 1. 26 per 1000 deliveries. The annual number and incidence of molar pregnancy are shown in Table 1 and Figure 1.

The incidence of molar pregnancies was approximately equal. In that period, the incidence in Europe and USA were almost within that range, while in Japan it was 2-3 times higher. The exception was 2002, when the incidence was the highest annual incidence in Europe, even higher than in Asian countries in which the incidence is high. In addition, this year we registered the youngest (15 years old) and the oldest patient (53 years old); other variations were not recorded in this year. In earlier publications (Jacobs et al., 1982), the vitamin A deficiency, increased intake of carotene and animal fats, as well as better socio-economic status, have contributed to a reduced risk of GTD. The higher incidence observed in our sample may partly explain the general low socio-economic status of patients in our country.

The diagnosis of PM was reported in 63 (60.6%) patients, CM in 10 (9.6%) patients, invasive mole in 20 (19.2%) and choriocarcinoma in 11 (10.6%) patients (Figure 2).

Mean age of patients was 32.2 years. The major portion (75.5%) of molar pregnancies was observed in young patients (less than 40 years of age), whereas only 24. 5% of the total number of cases were above the age of 40.

The average number of deliveries and abortion was 1.13 and 1.27, respectively.

Out of 104 patients, 43. 3% was treated by chemotherapy. Average number of cycles was 1.6. The largest number of patients (75.6%) had FIGO I stage, II (6.7%), III (15.5%) and IV (2.2%) (Figure 3).

The remission rate was 100%. Low-risk cases were treated with Methotrexate and folic acid successfully, as other studies have reported (4). One medium-risk case was treated with MAC regimen efficiently. High-risk cases were treated with EMA-Co regimen successfully, as has been demonstrated in other studies (5).

Surgery is performed either to treat complications or excise sites of resistant tumor. Hysterectomy may be necessary to control uterine hemorrhage or sepsis, or to reject resistant disease. In addition, recent data suggest that hysterectomy done during the first course of therapy will significantly reduce the duration and amount of chemotherapy required to induce remission (6). Thus, if further childbearing is not desired, we advise the total abdominal hysterectomy midway through the initial chemotherapy course. If future pregnancies are desired (or the option preserved), drug therapy alone is used. In approximately 10% of patients desiring pregnancy who receive chemotherapy alone, even with repetitive courses and different agents, such treatment will not induce remission, and delayed hysterectomy may be needed. Hysterectomy was done in 25% patients. Fertility-sparing procedures are the primary goal in young patients. However, in some cases, hysterectomy is necessary. In our investigated group, the reasons for hysterectomy were advanced age in 38.4% of cases, profuse bleeding in 26.9%, tumor localization in 11.5%; 7.8% patients wished, while 11.5% rejected chemotherapy (Figure 4).

Patohystological diagnosis was invasive mole in 38.5% of cases, choriocarcinoma in 30. 8% and partial and persistent moles in 15. 4% of cases (Figure 5).

After molar evacuation, all patients were followed, having serial serum hCG values and were considered to have achieved remission when hCG levels declined to undetectable levels for six months.

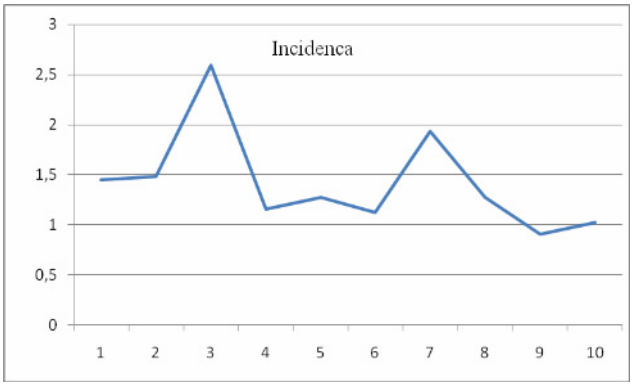

Figure 1. *Changes in incidence per year*

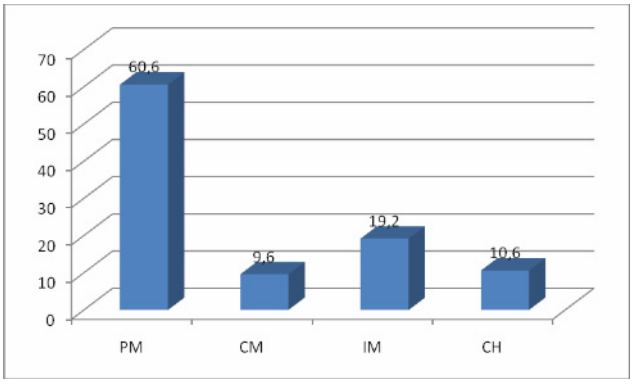

Figure 2. *Frequency of molar pregnancy*

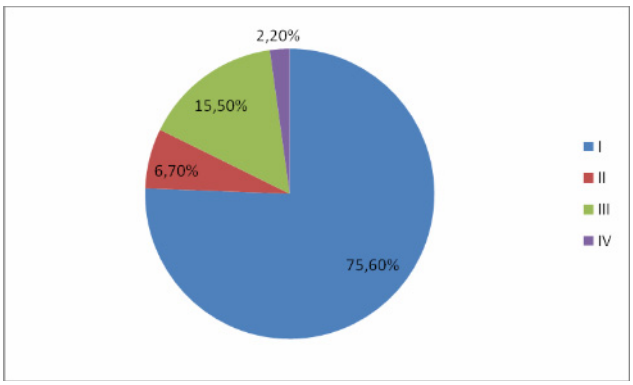

Figure 3. *FIGO stage and chemotherapy*

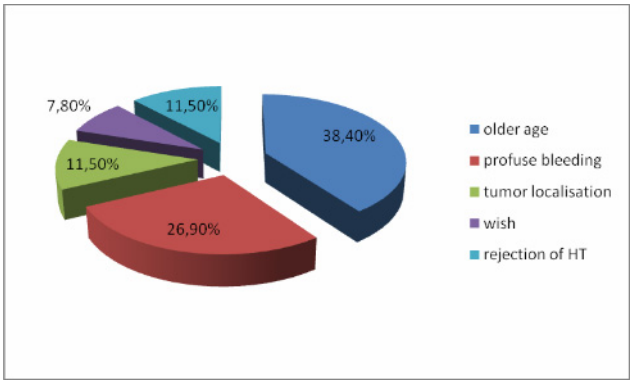

Figure 4. *Reasons for hysterectomy in GTD patients*

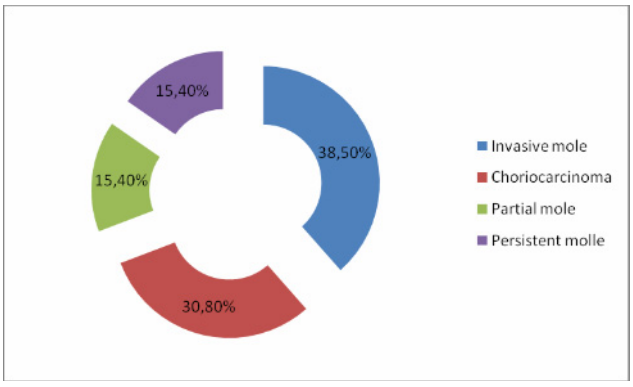

Figure 5. *PH diagnosis in patients who underwent hysterectomy*

Table 1. *Incidence of molar pregnancy per 1.000 deliveries*

	Number of molar pregnancies	Total number of deliveries	Incidence
2000	9	6.222	1.45
2001	10	6.744	1.48
2002	18	6.958	2.59
2003	8	6.879	1.16
2004	10	7.232	1.38
2005	9	7.058	1.28
2006	8	7.112	1.13
2007	10	5.189	1.93
2008	9	6.999	1.28
2009	6	6.546	0.91
2010	7	6.748	1.03
Total	104	82.407	

CONCLUSION

Lower socio economic status may be a risk factor for GTD, apart from younger age, at least one delivery and more abortions in anamnesis.

The optimal management of GTD depends on prompt diagnosis, correct stratification of the risk category and appropriate treatment using various modalities such as chemotherapy and surgery.

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TREND KRETANJA INCIDENCE GESTACIJSKIH TROFOBLASTNIH BOLESTI U PERIODU 2000-2010 - NAŠE ISKUSTVO

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Sažetak

Gestacijske trofoblastne bolesti (GTB) predstavljaju grupu retkih tumora koji nastaju abnormalnim rastom trofoblasta.

Cilj rada je da se utvrdi kolika je incidenca GTB u desetogodišnjem periodu u Univerzitetskoj klinici za ginekologiju i akušerstvo.

Retrospektivnom studijom obuhvaćene su sve bolesnice koje su lečene od GTD u našoj klinici u desetogodišnjem periodu. Analizom je obuhvaćena godišnja incidenca i ukupna incidenca u odnosu na broj porođaja.

Ukupno su lečene 104 bolesnice. Incidenca GTB bila je 1,26 na 1000 porođaja.

Na osnovu našeg iskustva, faktori rizika za nastanak GTB su niži socioekonomski status, godine starosti i barem jedan porođaj i veći broj pobačaja u anamnezi.

Ključne reči: **gestacijske trofoblastne bolesti, incidenca**