Pulmonary Metastases in Gestational Trophoblastic Disease A Review of 223 Cases

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Abstract : *A study of epidemiological characteristics of patients with pulmonary metastases of gestational traphoblastic disease was carried out between 1970 and 1987 at Guangxi Medical College, Guangxi, China. Of 389 patients with malignant trophoblastic disease, 223 had pulmonary metastases. The ages of these patients varied from 20 to 58 and 88 per cent of them were multiparae. The antecedent pregnancies were molar pregnancy, full term pregnancy, abortion, and ectopic pregnancy which were encountered in 64.1, 21.0, 13.9 and 1 per cent respectively. The diagnosis of pulmonary metastases was made, in the mojority of cases, within one year after the termination of previous pregnancies. The mortality rate among these patients was 24.2 per cent. With the combination of surgery and chemotherapy, hysterectomy significantly reduced the mortality rate. The causes of death were cerebral haemorrhage, respiratory failure, abdominal bleeding, and unknown cause encountered in 59.3, 24.0, 7.4, and 9.3 per cent respectively. (Thai J Obstet Gynaecol 1989;1: 97-100.)*

Key words: pulmonary metastases, gestational trophoblastic disease

Trophoblastic disease is commonly encountered among Asian women. Pulmonary metastases is also frequently found but fortunately, it is easily accessible radiologically. It has been known for a long time that gestational trophoblastic disease has a poorer prognosis than that of non-metastatic ones[1].

Since the introduction of systemic chemotherapy for the treatment of gestational trophoblastic disease, the malignant disease has become the most commonly curable gynaecologic malignancy. Again, with the development of a sensitive assay for human chorionic gonadotropin (hCG), it has allowed this tumour to be monitored as well as being a marker during therapy and detecting the remission.

It is the purpose of this study to find out the epidemiological characteristics of patients with pulmonary metasta-

ses of gestational trophoblastic disease admitted to the Department of Gynaecological Oncology, Guangxi Medical College.

Materials and Methods

The analysis of medical records of women admitted to the Department of Gynaecological Oncology, Guangxi Medical College, for the treatment of pulmonary metastases of trophoblastic disease between 1970 and 1987 was carried out. The diagnosis of metastatic disease was made on the basis of the clinical and the radiological evidences in conjunction with the elevation of the urinary hCG levels. Particular attention was paid to the antecedent pregnancy, the interval between the diagnosis made and the previous pregnancy termination, the mortality, and clinical features of patients dying of pulmonary metastatic disease.

Results

There were 389 patients with malignant gestational trophoblastic disease admitted for treatment in this institute during the period of study. Among these patients 223 (57 per cent) had pulmonary metastases. The ages of the patients varied from 20 to 58 years and the majority of patients (65 per cent) were between 25 and 35 years. Multiparae were encountered in 88 per cent of patients while the highest parity was 16.

As shown in Table 1, 64.1 per cent of patients with pulmonary metastases of trophoblastic disease had a previous history of molar pregnancy. Again, these patients had malignant disease with pulmonary metastases within one year in the majority of cases after the termination of the antecedent pregnancies. With a longer period following the antecedent pregnancy the disease was encountered less fequently. One patient had the diagnosis made 21 years after her previous full term pregnancy. One hundred and twenty-six patients (56 per cent) presented with either chronic cough or hemoptysis while only 5 patients experienced pleuritic pain and haemothorax. The rest had the diagnosis made by chest X-ray examination. The overall mortality among these patients was 24.2 per cent.

Among 223 patients studied, only 113 had metastatic lesions confined only in the lungs while the rest had more than one metastatic sites: vagina (70), brain (36), liver (13), kidney (5), bladder (3), fallopian tube (3), vulva (2), intestine (2), and one of each of the following: ovary, arm, and diaphragm.

The treatments are shown in Table 2. Among patients who received no further treatment, no patient survived. Twenty-five patients defaulted and could not be traced, and are presumably dead.

Table 3 shows the clinical features of 54 patients dying of pulmonary metastases. Cerebral haemorrhage and respiratory failure were the major causes of death. Most of these deaths occured within one year.

Among the survivors, 12 subsequently had normal pregnancies follow-

Table 1 Antecedent pregnancy, interval of pregnancy termination and diagnosis of pulmonary metastases, and 2-year survival

Pregnancy	No.(%)	Pregnancy termination-diagnosis interval				Motality No.(%)
		<2	2-5	6-10	11+	
Molar prg.	143 (64.1)	108	33	2	-	27(18.9)
Term prg.	47 (21.0)	19	21	2	5	15(31.9)
Abortion	31 (13.9)	26	5	-	-	12(38.7)
Ectopic	2 (1.0)	2	-	-	-	-
Totals	223	155	59	4	5	54(24.2)

Table 2 Treatment

Treatment	No.(%)	Mortality(%)
Chemotherapy	85(38.1)	25 (29.4)
Chemotherapy and modified extensive hysterectomy	66(29.6)	6 (9.1)
Chemotherapy and total hysterectomy	59(26.5)	10 (16.9)
No treatment	13(5.6)	13 (100)
Totals	223(100)	54 (24.2)

Table 3 Clinical characteristics of 54 patients dying of pulmonary metastases of trophoblastic disease

Characteristics	No.(%)
Diagnosis-death interval(years):	
<1	42 (77.8)
1-2	12 (22.2)
Therapy:	
Chemotherapy only	25 (46.3)
Chemotherapy + surgery	16 (29.6)
No treatment	13 (24.1)
Metastatic sites:	
Lungs	4 (7.4)
Lungs and brain	32 (59.3)
Lungs and others	18 (33.3)
Causes of death:	
Cerebral haemorrhage	32 (59.3)
Respiratory failure	13 (24.0)
Abdominal bleeding	7 (7.4)
Unknown	5 (9.3)

ing chemotherapy. All children were apparently normal up until this report.

Disussion

Malignat trophoblastic disease may accompany or follow any type of pregnancy. The present study confirmed the previous knowledge that the most common preceding type of pregnancy of malignant trophoblastic disease is molar pregnancy. Again, it has been known for long that pulmonary metastases is commonly encountered among malignant trophoblastic patients[2, 3].

Since most of the patients with pulmonary metastatic trophoblastic disease had symptoms of chest pain, chronic cough, and dyspnea, the diagnosis was easily made radiologically. However, the diagnosis among those without symptoms was made by chest X-ray and elevated hCG levels. Thus, chest radiography plays an important role in the diagnosis of pulmonary metastases. With the availability of CT scan nowadays it allow us to disclose the presence of cerebral metastases as well as pulmonary ones.

Treatment of metastatic disease depends on multiple factors. However, combined chemotherapy is the universally accepted treatment[4]. Among 5 patients with haemothorax in this series, intrathoraxic metrotrexate was given with good results. However, it can be seen from this study, although not conclusive, that hysterectomy did significantly reduce the mortality rate despite reports that with extensive spread of the disease it is less responsive to therapy[5].

Since reports of death from toxicity of chemotherapy are negligible, the prognosis of this disease at present depends on the aggressive multimodel approach[6]. Death from cerebral haemorrhage is encountered frequently, thereby, chemotherapy should be given appropriately in order to prevent such a condition and hopefully prevent death.

References

1. Bagshaw KD. Choriocarcinoma; the clinical biology of the trophoblast and its tumours. London:Edward Arnold, 1969:93-103.
2. Johnson TR, Comstock CH, Anderson DG.Benign gestational trophoblastic disease metastatic to the pleura:Unusaul case of hemothorax. Obstet Gynecol 1979;53:509-11.
3. Kumar J, Ilancheran A, Ratnam SS. Pulmonary metastases in gestational trophoblastic disease:A review of 97 cases. Br J Obstet Gynaecol 1988;95:70-4.
4. Ratnam SS, Ilancheran A. Disease of the trophoblast. Clin Obstet Gynecol 1982;9:539-64.
5. Miller JM, Surwit EA, Hammond CB. Choriocarcinoma following term pregnancy. Obstet Gynecol 1979;53:207-12.