

# OCCURRENCE OF PARTIAL MOLES WITHIN AN ELECTIVE ABORTION POPULATION

(A Morphological and Cytogenetic Study)

by

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## Introduction

Cytogenetics applied to foetal and placental tissue especially to the molar transformation of the chorionic villi helped to clarify the confusion existing in the pathology of hydatidiform moles (Pierre and Gustave 1977). Moles are now usually classified as:

1. "Classic (True) Hydatidiform moles" fully developed or complete moles without a foetus.

2. "Transitional Moles" where few or many chorionic villi are hydropic. These moles are often considered as a stage of evolution of the classic hydatidiform mole (Pierre, 1977).

3. Incomplete or partial moles where the foetus may be still born or many times alive but definitely ascertainable. (Jones and Lauersen 1975) Beischer 1966).

Chromosomal analysis of classical hydatidiform moles have revealed an exclusively female karyotype 46 XX (Sasaki, 1962) (Makino *et al* 1963) (Fukushima, 1968), whereas transitional and partial moles showed a preponderance of polyploidy, especially triploidy,

(Makino, 1864) (Carr, 1969). Partial moles have been frequently encountered in spontaneous abortions or therapeutic abortion but very few studies have been done on occurrence of partial moles within an elective abortion population.

With the liberalisation of elective abortion the number of patients presenting for pregnancy termination has shown a gradual increase and this study was conducted on this group of patients in Royal Marsden Hospital, U.K.

## Material and Methods

Suction curettage material from 1,000 cases of elective abortions, where the abortion was mainly on social grounds. The age of these women ranged from 17-37 years and period of gestation ranged from 4 to 19 weeks. All the available tissue fragments were collected in 10% formaline.

One hundred cases of elective abortions frozen sections and if found to be partial moles, tissue culture was put up immediately for chromosomal analysis. Diagnosis was later confirmed by paraffin section.

## Gross Examination

Tissue fragments were checked by naked eye and under a dissection microscope for swelling of villi and presence

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of an embryo, embryonic parts, cord or amniotic membrane. A specimen was classified as partial mole if both normal and swollen villi were found intermingled.

#### Histopathology

On microscopic examination the following feature were specially noticed:

1. Presence of normal and hydropic chorionic villi (Fig. 1).

2. Presence of functioning foetal vessels in the villi as the latter accumulate fluid.

3. Presence of trophoblastic inclusions. In reality deep fjord like inroads of surface trophoblast into the stroma of villus.

4. Presence of trophoblastic hyperplasia from mild to moderate, much less dramatic than classical mole.

5. Formation of maize-like cisterns in enlarged villi. These are sharply demarcated by naked connective tissue without any trace of endothelium and contain no blood while functioning vessels in immediate vicinity can be identified.

#### Observations and Results

Out of a total of 1000 cases, 186 cases did not show any chorionic villi and only endometrial tissue was seen, while 612 cases were normal. 12% cases showed hydropic degeneration of either many or of few chorionic villi and were grouped as transitional moles. Eighty-three cases (8.3%) showed typical histological appearance of partial mole as evident from Table I.

On frozen section study also the incidence of partial moles turned out to be 7% as is evident from Table II.

Out of the 7 cases in frozen sections, 5 cases revealed 69 triploidy as shown in Table III.

TABLE I  
Distribution of Cases in the Material Selected for Study

	No. of cases	%
Only endometrial tissue no chorionic villi seen	186	18.6%
Normal	612	61.2%
Hydropic degeneration in few chorionic villi	94	9.4%
		Transitional moles
Hydropic degeneration of many chorionic villi	25	2.5%
Partial moles	83	8.3%

TABLE II  
Distribution of Cases in Frozen Section

	No. of cases
Normal	85%
Transitional moles	8%
Partial moles	7%

TABLE III  
Chromosomal Analysis on Partial Moles

No. of cases	Karyotype
2	46 XX
3	69 XXX
2	69 XXY

#### Discussion

The data in this communication have been presented to illustrate the occurrence of partial moles in a series of cases of elective abortions which were clinically normal.

Cytogenetically complete classical moles give an appearance of 46 XX Karyotype and partial moles give a triploid karyotype and (Szulman and Surti 1978) other chromosomal anomalies like tetraploidy are also seen in these cases.



It can be asserted at this stage however that there is no transiution between two main syndromes i.e. partial and complete and both are morphologically and karyotypically distinct (Szulman 1978).

Two cases of partial moles which were diploid may represent a class of its own (Szulman 1978) and may herald yet another syndrome.

Complete classical moles are known forerunners of choriocarcinoma while partial moles have as yet been insufficiently studied in this respect. However one year follow up in one of the studies (Szulman, 1978) did not reveal malignancy but they need to be followed up for a longer period of time in order to establish their relationship to choriocarcinoma.

Human chorionic gonadotrophins were initially high in practically all cases. However, they have not been studied in our cases.

The question which still remains unanswered is what would have happened

to these women if they had carried on with their pregnancies? Would they have aborted or would they have continued with normal pregnancy?

The postulated hypothesis regarding the development of triploidy in partial moles have been attributed to faulty meiotic division before fertilisation or to diaspermy i.e. one ovum being fertilised by two sperms.

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*See Figs. on Art Paper VI*