

Abstract

A Study to Determine the Ploidy Status in Molar Pregnancy and Its Relation to the Persistence of Gestational Trophoblastic Disease by Flow Cytometry: In Pusat Perubatan UKM and Hospital Kuala Lumpur

Nur Zaireena Z, Nasir Shafiee, Nirmala Kampan, Razmin Ghazali, Isa Rose, Noor Hamidah, Ahmad Zailani Hatta, Noor Haliza Y, Azmi Tamil, Jamil MA

Department of Obstetrics and Gynaecology, Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia.

Objective:

To determine the prevalence of hydatidiform mole subtypes (Complete Hydatidiform Mole and Partial Hydatidiform Mole) and the persistence of the disease in PPUKM and HKL. To study the usefulness of immunohistochemistry P^{57kip} staining in the diagnosis of hydatidiform moles subtypes. Ploidy status among hydatidiform mole subtypes based on flow cytometry analysis and correlate it based on immunohistochemistry staining and ploidy analysis with the disease persistence.

Methods:

A prospective study on hydatidiform mole subtypes and persistence trophoblastic disease conducted in the Department of Obstetrics and Gynaecology Pathology Department of Pusat Perubatan Universiti Kebangsaan Malaysia (PPUKM), and Hospital Kuala Lumpur (HKL), over eighteen months period (2012-2013). Paraffin embedded hydatidiform tissues over six years evaluated with immunohistochemistry expression of P^{57kip} antibody and ploidy status by flow cytometry analysis.

Results:

147 hydatidiform mole cases with histopathological evidence over the past six years were analysed. Prevalence showed 51 (34.6%) cases of complete hydatidiform mole (CHM), 54 (36.7%) partial mole (PHM). Malay ethnicity revealed the highest distribution with mean age of 31.3 years old (sd ± 8.56). IHC staining was far better than the routine haematoxyline and eosin (H&E) staining in determining the subtypes of hydatidiform moles with 36% revised diagnosis, further revealed that all the persistent disease progressed from the complete hydatidiform mole (CHM). Preliminary report on ploidy analysis revealed difficult optimization and analysis of the hydatidiform tissue obtained; longer duration is needed for analysis. The ploidy status in relation to persistence disease is still in progress.

Conclusion:

Immunohistochemistry staining with P^{57kip} antibody was a useful complementary test in determining hydatidiform subtypes. This further help in patient counseling and monitoring for risk of persistence disease especially in complete mole. Ploidy analysis is more suitable for research purposes and clinically not applicable for routine testing in determining the disease persistence.