UNIVERSITY OF TORONTO
LESLIE DAN FACULTY OF PHARMACY

TOXICOLOGY GROUP TRAINEE SEMINAR PROGRAM

Wednesday, December 16, 2015, 2:10–3:30 p.m.
Room 850, 144 College Street

Title: **Pregnancy outcome after in-utero exposure to vitamin B 2: a cohort study using prospectively collected data from the Motherisk Program**

Trainee: YAKO JAK OZSARFATI, MSc Candidate
Supervisor: Dr. Shinya Ito
Advisors: Dr.Lee Dupuis, Dr.Brian Feldman

ABSTRACT:

Riboflavin, also known as vitamin B2, is a well known essential nutrient and a water soluble vitamin. Health Canada states a daily minimum dose as 0.08 mg and maximum dose as 100 mg for pregnant women. The recommended dietary allowance (RDA) of riboflavin is 1.4 mg/day during pregnancy and 1.6 mg/day in lactation. Despite the RDA, many of the pregnant women who call Motherisk, take high doses of B vitamins, including riboflavin. These doses are commonly between 50 and 100 mg per day and but can be as even high as 400 mg/day in pregnant women with migraine attacks. Riboflavin deficiency is well studied in humans and may cause congenital malformations, anemia, cancer, cardiovascular, vision and behavioral problems and preeclampsia. The data we have regarding the use of excess doses of riboflavin are very limited. Although excess doses of vitamin B2 seem safe, their effects are not studied in pregnancy and there are no data about excessive intake during pregnancy. In this study our goal is to study the pregnancy outcome of pregnant women with excessive vitamin B2 intake. The objectives of our study are to compare pregnancy outcomes, including the rate of live-births, miscarriages, stillbirths, neonatal birth weights, preterm deliveries, neonatal complications and congenital malformations in women exposed to more than 25 mg/day of vitamin B2 during pregnancy with a matched comparison group of pregnant women with non-teratogen exposures. The results of this study will add to the very limited data available in the literature regarding the safety of vitamin B2 intake in excess doses during pregnancy. Our hypothesis is “There is no increased risk of toxicity and therefore we do not expect any increased risk for malformations or other adverse outcomes in pregnant women who are exposed to more than 25 mg/day of vitamin B2“. I am currently continuing to recruite subjects and we don’t have any results to discuss yet.

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Title: **The Neonatal and Long-Term Immune Development of Infants Exposed to Immunoglobulin Biologics in utero**

Trainee: **JUEJING LING**, MSc Candidate

Supervisors: Dr. Gideon Koren & Dr. Shinya Ito

ABSTRACT:

The use of biologics during pregnancy or lactation has become increasingly common, improving the disease status of those women with chronic inflammatory conditions. While most databases and registries reported positive pregnancy outcomes for women taking biologics during pregnancy, some case reports have highlighted concerns of adverse effects on newborn immune system and response to live vaccines. Currently, the effects of in utero biologics exposure on neonates and infants have been poorly characterized. This presentation proposes a study that will focus on examining the status and development of the immune system of infants born to women taking biologics during pregnancy. By combining the T-lymphocyte development assay results from Newborn Screening Ontario database with at least one year follow-up results, this study is intended to compare the estimated newborn naïve T cell level, infectious disease complications, allergies, and vaccination outcomes in infants exposed to biologics prenatally and non-exposed infants.