

17)

عنوان المشروع باللغة العربية - Title of the proposed project in Arabic

التعرض للملوثات العضوية الثابتة وعلاقته بالإصابة بسرطان الثدي

Title of the proposed project in English

Exposure to Persistent Organic Pollutants and Relation with Breast Cancer

المشرف الرئيسي - PI

Prof. Nasser Al-Daghri

التخصص الدقيق للمشرف الرئيسي - Specialty of PI

Clinical Biochemistry

المشرف المساعد - Co-PI

Dr. Sherif Hussein

المدة المتوقعة لإنجاز البحث منذ الحصول على موافقة عمادة الدراسات العليا (بالشهور) - Expected time in month to finish

شهر 12

Abstract of the proposal (No more than 200 words)

Persistent organic pollutants (POPs) are released into the environment from different sources. They are detected in most of different environmental samples; air, water, soil, food. Many of recent clinical evidence, experimental models, and epidemiological studies suggest that POPs have major risks for humans due to their endocrine disrupting properties and targeting different organs and

systems in the body (e.g. reproductive system, breast tissue, adipose tissue, pancreas, etc.). Due to the ubiquity of human exposure to these compounds the aim of this study is to describe the relation between POPs exposure through determination of serum POPs and breast cancer.

Hypothesis of the proposal

POPs have major risks for humans due to their endocrine disrupting properties, but there is no clear scientific evidence for the relation between POPs exposure and breast cancer. We have hypothesis that accumulation of POPs in the body are related to breast cancer in Saudi females. So, we need to test this hypothesis.

Specific objectives

- Determine serum POPs concentration
- Determination of cancer markers
- To investigate the association between POPs level and
- To sharing the obtained data, practical aspects, and experiences with other international research groups (peer review publication, practical training, conferences and workshops)

Methodology & Major Techniques to be used

Subjects: A total of 100 (50 obese, 50 non- obese) Saudi female.
POPs analysis: Quantitation of Organochlorine pesticides in serum samples.
Biochemical analysis: Biochemical and metabolic parameters and cancer biomarkers.
Investigate the association between serum POPs concentration and breast cancer.

Availability of Samples

Yes

Availability of Chemicals

Yes

Availability of Instruments

Yes

Ethical Approval

Ethical approval is available

Recent References

1- Giulivo M, Lopez de Alda M, Capri E and Barcelo D. Human exposure to endocrine disrupting compounds: Their role in reproductive systems, metabolic syndrome and breast cancer. A review. *Environ Res* 2016; 151: 251-264.
2- Arrebola JP, Fernandez-Rodriguez M, Artacho-Cordon F, Garde C, Perez-Carrascosa F, Linares I, Tovar I, Gonzalez-Alzaga B, Exposito J, Torne P, Fernandez MF and Olea N. Associations of persistent organic pollutants in serum and adipose tissue with breast cancer prognostic markers. *Sci Total Environ* 2016; 566-567: 41-49.