

Document Type : Thesis
Document Title : *Determination of Organic Halogens and Aflatoxins in Human Breast Milk*

تقدير الهالوجينات العضوية والأفلاتوكسينات في حليب الأم

Document Language : Arabic

Abstract : Breast milk is a complex fluid, rich in nutrients and non-nutritional bioactive components. The composition and volume of human milk progressively changes with the onset and duration of lactation and can, be influenced by maternal nutritional factors. Environmental pollutants which may occur in breast milk and in various food products and drinking water, and which are also transferred to the fetus, constitute a severe threat to the health of infants and children. Among such compounds, various organochlorines, such as pesticides for the control of parasites and aflatoxin. The aim of this study was to evaluate the level of organochlorines pesticides and aflatoxin M1 in breast milk of Saudi lactating mothers and aflatoxin 81 in some common consumed food (Jeddah). thirteen breast milk samples, randomly collected from Saudi donors were analyzed for chlorinated pesticides, using supercritical fluid extraction (SFE) and gas chromatography connected to electron capture detector. DOE was found in four samples only and ranged from 0.01- 0.02 ppm, and DOT was found in one sample and contains 0.043 ppm. Residue level of DOE and DOT found in the milk samples were generally low compared to the levels reported from other Middle Eastern Countries. Exposure of infants to Aflatoxin M 1 and of lactating mothers to Aflatoxin 81, using Aflatoxin M 1 in breast milk as a biomarker for exposure to Aflatoxin 81 was examined in breast milk samples from Jeddah-Saudi Arabia. Eighty one sample of human milk were obtained from Saudi donors were analyzed for aflatoxin M 1 using ELISA. All samples were found to contain Aflatoxin M1. It was 47.70 :t 15.03 (mean standard deviation) ng/i. The range was 67.67 ng/l with minimum 6.18 and maximum 73.85 ng/l, respectively. It is seemed that the contamination of breast milk with Aflatoxin M1 was within the permissible level. Some selected food items such as nuts, grains and seeds were analyzed for contamination with aflatoxin 81. All items contain aflatoxin 81, but none was higher than the permissible level, which is inaccordance to the regulation of Quality Control Laboratory, by not allowing any food items in the market that exceed 20 ppb aflatoxin B1