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07 October 2024

Rt Hon Sir Julian Smith KCB CBE MP
House of Commons
London SW1A OAA

Dear Sir Julian

Your ref: JU80262

Thank you for your letter regarding lead in the food chain. I do apologise for the delay in responding.

Lead causes a number of adverse health effects on the renal, cardiovascular and nervous systems. Lead is absorbed more readily in children than in adults and accumulates in various tissues and the bones in the body. The main, and most sensitive, endpoint of concern for lead is developmental neurotoxicity in young children, with evidence showing that the developing brain is more vulnerable to the neurotoxicity of lead than the adult brain; this is associated with a reduced Intelligence Quotient (IQ) score and reduced cognitive functions in children exposed to high levels of lead. At present, there is no identifiable threshold for this effect. The risk assessments of dietary lead by the Committee on Toxicity (COT) compare the level of lead exposure in consumers to the intakes associated with this effect.

The Committee on Toxicity has assessed the risks from dietary exposure to lead on a number of occasions. The possible effects in infants and young children were assessed by the Committee in 2013 and 2016.
COT 2013 statement on the potential risks from lead in the infant diet
COT 2016 addendum to lead statement

The Committee estimated exposure of UK infants and young children to lead from different food and environmental sources. Levels of lead in food were obtained from surveys conducted by the FSA and those in water were provided by the Drinking Water Inspectorate. Levels in soil and air were obtained from surveys conducted by DEFRA. These exposure estimates were compared to the limit value for effects on IQ, determined by EFSA and endorsed by the Committee.

For infants aged 0 to 6 months old who are fed breast milk, ready to feed drinks and powder formula made with water containing typical lead concentrations, any risk would be low. However, a small risk could not be ruled out for infants of this age exclusively fed on infant formula prepared with water containing lead at the upper end of the concentration range of lead reported in public water supplies.

For older infants, and for young children, any risk from diet alone would also be low. However, the effects of lead will depend on total exposure to lead from all sources, so the COT considered combined exposures from food, water, and also non-dietary sources (air, dust, soil). When the possible contribution from soil and dust is taken into account, a risk at the population

level and to some infants and young children cannot be ruled out. Exposures from air are negligible.

As part of an ongoing programme of work on the maternal diet being conducted with the Scientific Advisory Committee on Nutrition (SACN) the COT have recently reviewed the potential effects of lead in the diet of pregnant women. The Committee concluded that the estimated exposures indicated that, at most, any risk of toxicity from lead in relation to the maternal diet and other potential sources of maternal exposure was likely to be low. Therefore, current exposure levels for lead were unlikely to be of concern to health in the vast majority of women and fetuses. This statement is currently being finalised.

Therefore, for most of the population, lead levels are not of concern, but certain individuals will be more highly exposed to lead, either as a result of living in areas with high geological lead, through soil contamination or from consumption of lead shot game and it is important that the potential risks are assessed.

As there is no identified threshold for the effects of lead, exposure should be as low as reasonably achievable. As there are low background levels of lead in food and the environment, ensuring that the current background level is not unnecessarily exceeded provides protection to the consumer. The adverse effects of lead arise from long term exposure, with occasional higher exposure not being of particular concern, since exposure will even out over time.

The Food Standards Agency advises that legislation sets out maximum levels of lead, in a range of foods. Where maximum limits for a contaminant are not set in a food commodity it does not mean that any level of a metal or any other contaminant is permitted. The commodity must still comply with general food law, which states that food shall not be placed on the market if it is unsafe i.e., injurious to health or unfit for human consumption.

If high levels of lead were to be found in food products in the UK, the FSA would undertake an assessment and take appropriate action to protect customers. Lead exposure from food is under constant review to ensure that advice and other measures in place remain protective for all consumers.

The FSA is planning to review dietary lead as part of its risk analysis programme and will consider how best to approach this assessment taking into account hot spots where exposure is likely to be higher, including the specific concern regarding old lead mines. The COT will be consulted on the risks of any exposure levels above those previously considered.

Lead is an issue that cuts across a number of government departments, so it will be important to ensure an integrated assessment. It should be possible to expedite this, as the COT and its Secretariat, comprising the FSA and the UK Health Security Agency, support a number of other Government Departments and Agencies, as well as Local Authorities, in terms of the health risks from lead. The FSA and UKHSA also support these Departments and Agencies in actions across various sectors to reduce lead exposure.

Your sincerely,

Alan R Boobis