Meeting on endocrine disruptors

Office of the Chief Scientific Adviser, European Commission, Brussels, 24.10.2013

Conclusions agreed by participants

1. The participants appreciate the initiative of the Chief Scientific Advisor to help discuss the remits of scientific consensus around issues on endocrine disrupting substances (EDS)
2. EDS is a good example where scientific advice is an essential element for environment and health related policy-making.
3. There is substantial agreement as well as uncertainty on scientific issues in EDS. Some of the main consensus and uncertainties are as follows:

a. Definition

- There is good agreement on the definition of EDS based on WHO-IPCS of 2002
- The definition has to be interpreted in relation to the EDS criteria, to disturbance of homeostasis and to developmental stages issues

b. Thresholds

- It is possible that thresholds do not exist; the reason of the uncertainty is the limitation of the experimental constraints and the understanding of the biology.
- It is not possible to define thresholds only by experiments in whole organism due to lack of sensitivity
- The existence of thresholds must be defined by understanding better the mechanisms of action in a quantitative systems approach

c. Non-monotonicity

- Non-monotonic effects do exist for some EDS in vitro or in vivo
- The question is how often adverse non-monotonic effects occur
- Non-monotonic effects may derive from different mechanisms working together

d. Testing

- All currently validated OECD guidelines do not cover all adverse effects or modes of action of EDS
- Reliable study designs to find non-monotonic effects are available but are not yet agreed
- More dedicated methods are needed to evaluate possible effects relevant for humans, especially for cancer induction or long-term effects

Participants

Experts: Anna-Maria Andersson, Alan Boobis, Wolfgang Dekant, Helmut Greim, Ulla Hass, Andreas Kortenkamp

Chair: Anne Glover, CSA

Rapporteurs: Jan-Marco Mueller and Didier Schmitt (BEPA/CSA Office)