

MICROPLASTICS AND OTHER POLLUTANTS AS ENDOCRINE DISRUPTORS IN THE ANTHROPOCENE: A PSYCHO-NEURO-ENDOCRINE-IMMUNOLOGICAL PERSPECTIVE

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Abstract: We (the humans) live in a terrestrial environment, from which we receive air, food, water and all the resources for our needs. Each individual engages in a daily and intimate relationship with the environment, where we must consider that we are not owners but guests, in a reciprocal interaction with all other forms of life.

One World (in the sense that we all live on the same planet) and One Health (in the sense that all live beings on the planet share many health and disease interactions) are therefore the basic philosophical, biomedical and practical paradigms of ecology on Earth: the common house for all live beings, including us, on such planet (the only one available for the known ecosystems so far).

We received terrestrial resources from our ancestors (and the ecological cohabitants), through our parents, and we leave what remains to our children and descendants who should hopefully be able to live on Earth in future times with the same chances and quality of life that was offered to us.

The environment however accumulates the consequences of all the preceding insults caused by us and by our human predecessors, who started centuries and centuries ago to extract, construct, modify, pollute every part of the planet, which now carries all the human modifications evident in the present times, widely accelerated in the most recent decades (Anthropocene).

Many aspects of chemical pollution (such as that from plastics and lipid-soluble chemicals) may have endocrine consequences and may cause endocrine perturbances known as endocrine disruption (ED) effects.

Since the industrial revolution (a little more than two centuries ago) humans potentiated enormously their capacity to modify the environment, often for improving human life, but almost always by destroying ecosystems and depauperating the natural resources in many ways.

The PNEI paradigm that inspires us, a group of physicians and health professionals of the XXIst century, and also human beings able to recognize and appreciate the mind-body relationships within each individual, may be very useful to interpret the complex interplay network equilibria existing in ecological systems between different forms of life and regulating health and disease in every living organism. And such a network-based PNEI paradigm should be the best basic knowledge to appreciate and correct the environmental causes of disease, before it is too late.

As for climate on Earth in the XXI century, many observations show us that it may be already too late to make changes to revert to sustainable equilibria.

We shall discuss in the presentation some peculiar aspects of these complex but fundamental issues regulating ecosystems and human Health, with the PNEI paradigm well in perspective.

Key words: Anthropocene, chemical pollution, psycho-neuro-endocrine-immunological impact

REFERENCES

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