

Cyborg Babies: A Bane to Human Beings

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ABSTRACT

Microplastics are particles smaller than 5 mm that form as plastic objects in the environment degradation. Microplastics may be transferred from the atmosphere to living animals, such as mammals. Six human placentas were obtained from consenting women with physiological pregnancies and examined using Raman microspectroscopy to see whether microplastics were present. In total, 12 spherical or irregularly shaped microplastic fragments (ranging in size from 5 to 10 mm) were found in four placentas (five on the fetal side, four on the maternal side, and three in the chorioamniotic membranes). The morphology and chemical composition of all microplastic particles were studied. All of them were pigmented; three of them were identified as stained polypropylene, a thermoplastic polymer, while the other nine could only be identified by their pigments. Many of them were used in coatings, oils, adhesives, plasters, finger paints, polymers, cosmetics, and personal care products.

Keywords: Cyborg baby, Plastics, Pregnancy.

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INTRODUCTION

Plastic pollution is the major concern in the world at present. Microplastics have been detected in all areas of the world and in all kinds of habitats, indicating that plastic contamination is widespread. Every year, 1.1 to 8.8 million tons of plastic waste is expected to reach the ocean from coastal societies.¹ According to some estimates, by 2050 there could be more plastic in the oceans than fish. They have been found in Mount Everest, in the deepest parts of the oceans, in Arctic ice, in fish, and even in plants, where they travel from the roots and end up in fruits and vegetables that humans and animals eat. They are believed to have toxic and cascading effects on all species.²

PLASTIC POLLUTION

Plastic pollution is the deposition of plastic things and particles in the atmosphere (e.g., plastic bottles and bags) that is very harmful for the wildlife, wildlife habitat, and humans. Plastics that pollute the surroundings are classified as micro-, meso-, or macrowaste, depending on their size. Plastics are cheap and long-lasting, making them ideal for a variety of applications; as a result, humans manufacture a large amount of plastic. Many plastics, on the contrary, have a chemical structure that makes them resistant to many natural degradation processes, making them slow to degrade. These two factors work together to cause vast amounts of plastic to enter the atmosphere as unmanaged waste and remain in the ecosystem.

Land, rivers, and oceans may all be affected by plastic contamination. Living organisms, such as marine animals, may be harmed by mechanical effects of plastic products, problems with intake of plastic waste that interfere with their mechanism of physiology. Degraded plastic waste may have a significant impact on humans by direct consumption (e.g., in drinking water), indirect consumption (eating animals), and hormonal disruption.

Plastic fragments ranging in size from 2 to 5 mm are known as microdebris. Plastic debris that begins as meso- or macrodebris will degrade and collide, breaking it down into smaller parts, resulting in microdebris. Filter-feeding organisms often eat microdebris and scrubbers due to their small scale.³

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EFFECTS ON HUMANS

Manufacturing compounds pollute the atmosphere by discharging pollutants into the air and water. Plastics include hazardous substances that have been used to make food parcels, medical instruments, flooring products, bottles, perfumes, cosmetics, and much more. These materials are toxic to humans in large doses, killing the endocrine system. Although the quantity of exposure to the chemicals varies depending on the age and location, most humans are exposed to a variety of them at the same time. Children and women in their reproductive years are the most vulnerable, and they are more likely to damage their immune systems as well as their reproductive systems.⁴

CYBORG BABIES

"Cyborg infants" or "cyborg babies" are the children with plastic parts implanted in their bodies. The babies are "no longer composed only of human cells, but a combination of biological and inorganic entities."

According to the report published in the *International Journal of Environment* in December 2020, microplastic particles will bear chemicals that can cause long-term harm or disrupt the developing immune system of the fetus. The placenta transports waste and provides oxygen and nutrients to the baby in the womb.⁴

Microplastic particles have been found in the placentas of women who have recently given birth for the first time. Microplastic particles may have been inhaled or swallowed by the mothers. Six human placentas were obtained from consenting women with physiological pregnancies and examined using Raman microspectroscopy to see whether microplastics were present. In total, 4 placentas contained 12 microplastic fragments (ranging in size from 5 to 10 mm) with spheric or irregular shapes (5 in the fetal side, 4 in the maternal side, and 3 in the chorioamniotic membranes).⁵

Just 3% of the placenta was sampled, implying that the overall number of microplastic fragments is much higher.

It means they had “cyborg infants,” or children with plastic parts embedded in their bodies. The women in the study had no issues in their pregnancies, and the effects on their babies are unknown, but experts are concerned that chemicals in the plastics can affect their growth. The researchers concluded that toxic microplastics in the placenta and during pregnancy may have transgenerational effects on metabolism and reproduction.⁶

COMPLICATIONS

- These chemicals have been related to a wide range of health concerns, including reproductive harm and obesity, as well as organ malfunction and developmental delays in children.
- Endocrine disruption in children can cause cancer, birth defects, immune system suppression, and developmental issues.

PREVENTION

Ways to limit plastic contamination and plastic use:

- Maintain a clean environment by cleaning on a daily basis.
- Filter the water from the tap.
- Artificial fragrances should always be avoided.
- Keep a safe distance from warm or hot plastics and do not breathe near them.
- Avoid canned goods at all costs.
- Shampoos, soaps, moisturizers, and lipstick are all examples of traditional personal care items to avoid.
- Avoid conventional and large-scale agriculture produce (pesticides and herbicides have plastic residues)
- It is no longer possible to chew gum because it is made of plastic.

- Whenever possible, buy boxes and glass bottles instead of plastic bottles.
- For drinks or coffee and soda refills, use a reusable bottle or mug.
- Consume true, whole foods—less packaging and previous plastic interaction mean less waste.
- Cloth diapers should be used instead of disposable diapers since disposable diapers are extremely harmful to the environment and your infant.
- Glass containers and reusable bags are ideal for lunches.⁷

CONCLUSION

Thus, the presence of exogenous and potentially harmful (plastic) particles in the placenta, which plays such an important role in promoting the fetus growth and serving as an interface between the latter and the external environment, is a major source of concern in humans. The transgenerational effects of plasticizer on metabolism and reproduction may have an impact on pregnancy outcomes and the fetus. Therefore, limit the usage of plastics as much as possible in day-to-day life to lead a healthy environment and a healthy life.

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