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## Polysorbate 80

There are some studies showed that Polysorbate 80 has been linked to infertility in mice, an increased risk of blood clots, heart attack, stroke, heart failure and even the recurrence of cancer. This additive was indicated by a article in PubMed as a causative agent of pregnant women going into anaphylactic shock. Other studies showed that this emulsifier is especially harmful to those with Crohn's disease with symptoms include abdominal pain, diarrhea, sometimes bloody and weight loss.

Biomedical Sciences researchers, which are led by Georgia State University, discovered that Polysorbate 80 disturbed the gut flora, created a host of unhealthy side effects. This seems to lead the increase of digestive ailments such as ulcerative colitis, Crohn's disease and inflammatory bowel diseases. Since this emulsifier were introduced, the incidences of metabolic syndrome and other types of obesity related health issues that lead to heart disease , liver disease and diabetes have been on the rise as well.

In one study, scientists fed mice with two of the most popular emulsifiers which are Polysorbate 80 and Carboxymethylcellulose, at high enough doses that it mimicked the average human consumption. All of the mice had dramatic changes to their guts including increased inflammation levels. Because their gut flora had been adjusted, chronic colitis appeared and their immune system responses were damaged. These mice also generated metabolic syndrome, increased levels of food consumption, insulin resistance and obesity. Toxicity and carcinogenicity studies were conducted by adding Polysorbate 80 in diet to groups of B6C3F1 mice and F344/N rats of each sex for 14 days, 13 weeks and 2 years. In this research, groups of five mice and five rats of each sex fed by meals containing 0, 3000, 6000, 12500, 25000 or 50000 ppm Polysorbate 80. In conclusion, under the conditions of these 2-year feed studies, there was unclear evidence of carcinogenic activity for polysorbate 80 in male F344/N rats based on an increased incidence of pheochromocytomas of the adrenal medulla. The results also showed that there was no presence of carcinogenic activity for polysorbate 80 in female F344/N rats or in male or female B6C3F1 mice. The addition of polysorbate 80 in diets was associated with ulcers of the forestomach in female mice and with inflammation and squamous hyperplasia of the forestomach in male and female mice.

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