Title:	Inflammatory Effects of Subacute Exposure of Roundup in Rat Liver and Adipose Tissue
Authors:	Pandey, A. (/jspui/browse?type=author&value=Pandey%2C+A.) Dhabade, P. (/jspui/browse?type=author&value=Dhabade%2C+P.) Kumarasamy, A. (/jspui/browse?type=author&value=Kumarasamy%2C+A.)
Keywords:	Glyphosate Roundup Toxic
Issue Date:	2019
Publisher:	SAGE
Citation:	Dose-Response, 17(2).
Abstract:	Roundup is a popular herbicide containing glyphosate as an active ingredient. The formulation of Roundup is speculated to have critical toxic effects, one among which is chronic inflammation. The present study analyzed adverse inflammatory effects in the liver and adipose tissue of rats after a subacute exposure of Roundup. Adult male rats were exposed to various doses of Roundup (0, 5, 10, 25, 50, 100 and 250 mg/kg bodyweight [bw] glyphosate) orally, everyday for 14 days. On day 15, liver and adipose tissues from dosed rats were analyzed for inflammation markers. C-reactive protein in liver, cytokines IL-1β, TNF-α, IL-6, and inflammatory response marker, and prostaglandin–endoperoxide synthase were upregulated in liver and adipose of rats exposed to higher (100 and 250 mg/kg bw/d) doses of Roundup. Cumulatively, our data suggest development of inflammation in lipid and hepatic organs upon exposure to Roundup. Furthermore, liver histological studies showed formation of vacuoles, fibroid tissue, and glycogen depletion in the groups treated with doses of higher Roundup. These observations suggest progression of fatty liver disease in Roundup-treated adult rats. In summary, our data suggest progression of multiorgan inflammation, liver scarring, and dysfunction post short-term exposure of Roundup in adult male rats.
URI:	https://journals.sagepub.com/doi/10.1177/1559325819843380 (https://journals.sagepub.com/doi/10.1177/1559325819843380) http://hdl.handle.net/123456789/2137 (http://hdl.handle.net/123456789/2137)
Appears in Collections:	Research Articles (/jspui/handle/123456789/9)

Files in This Item:

File	Description	Size	Format	
Need to add pdf.odt (/jspui/bitstream/123456789/2137/1/Need%20to%20add%20pdf.odt)		8.63 kB	OpenDocument Text	View/Open (/jspui/bitstream/12345

Show full item record (/jspui/handle/123456789/2137?mode=full)
(/jspui/handle/123456789/2137/statistics)