Hepatic distribution of GST cannot explain the gap between human and rodents for induction of cholangiocarcinoma following exposure to dichloropropane

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Purpose: 1,2-Dichloropropane(DCP) is thought to induce cholangiocarcinoma(CCA) among Japanese printing workers in 2013. However no studies have shown DCP-induced CCA in rodents. Five kinds of rodents were exposed to DCP to find an appropriate animal model for DCP-induced CCA.

Methods: First, 12 C57BL/6J mice, Balb/cA mice, F344 rats, Syrian Hamsters and Guinea Pigs were divided into 4 groups equally and exposed to DCP at 0, 300, 1000 and 3000 ppm respectively. Then 32 Balb/cA mice and Syrian Hamsters were divvied into 4 groups equally and exposed to DCP at 0, 200, 400 and 800ppm respectively. After the last exposure livers were dissected out for immunohistochemistry with anti- GSTT1, GSTM1, GSTPi antibodies.

Result: Either in control or exposed group all of the animals expressed GSTT1 both at liver cells and bile duct cells.

Conclusion: GSTT1 expression cannot explain the gap between human and rodents in the case of DCP inducing CCA.