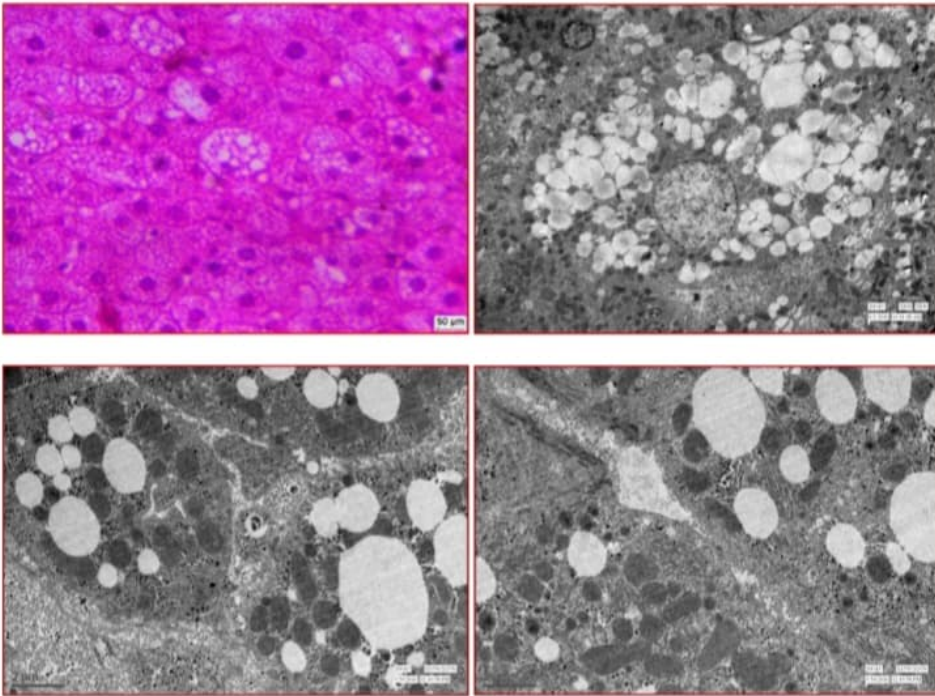


A Handbook on Hepatotoxicity



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Chapter 9

Aspartame induced Hepatotoxicity

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In 1965, aspartame, a high-intensity sweetener marketed as NutraSweet®, was discovered by a scientist at GD Searle & Company (Mazur and Goldkamp, 1969). Aspartame is a synthetic, low-calorie sweetener that is widely used in various food and personal care products due to its intense sweetness (Choudhary and Lee, 2018). It is consumed by millions of people in beverages, desserts, chewing gum, vitamins, and medications. While it provides an alternative to sugar for diabetics and those aiming to reduce sugar intake, studies have suggested a possible link between aspartame consumption and an increased risk of type 2 diabetes and non-alcoholic fatty liver disease, although factors like body weight may play a role (Lazzarino et al., 2019). Regulatory bodies carefully assess anticipated consumption levels of food additives like aspartame before approval. Aspartame should not be used in baking or cooking due to its instability when exposed to prolonged heat (Kroger et al., 2006). Non-nutritive sweeteners, including aspartame, offer high sweetness with few or no calories and are commonly used as sugar substitutes (Das and Chakraborty, 2018). However, concerns have been raised about potential negative metabolic effects resembling sugar intake. Sucralose, aspartame, and stevia are popular non-nutritive