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Cholesterol Oxides Contamination Resulting From Some Processes Manufacturing of Beef and Their Biological Effects[#]

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Abstract: The present study focused on cholesterol oxides contamination resulting from processes manufacturing of beef and their biological effects. The results cleared that the minced beef led to increase of cholesterol oxides products (COPs). While, low temperature storage and the packing under vacuum led to a reduction in the level of COPs. Effects of cooking methods on COPs formation in beef were 0.016, 0.031 and 0.045 mg/g to blanching, frying and roasting, respectively. The cooking pan type was affected too on COPs formation in beef whereas, Aluminum and Enamel were the highest and Pyrex lowest. COPs have many biological lesions on experimental rats (females and off spring) as decreasing of the body weight gain and feed intake and increasing of liver and spleen weight. Also, COPs affected on mortality, carcinogenic and teratogenic lesions in parents and off spring rats where, a cleared case of carcinogenic in liver and colon the parents and mortality of off spring with percentage 79, 100, 100 and 100% after 21, 11, 3 and 1 day at concentrate 0.1, 0.2, 0.3 and 0.4% COPs, respectively. Also, COPs have histopathological lesions on some organs.

Keywords: *Cholesterol oxidation, manufacturing processes, beef, biological effects.*

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