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Nutritional, biochemical and cytogenotoxicity studies on wasted fat released from chicken during grilling process

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abstract

Some physico–chemical properties of fat released from chicken during grilling process were evaluated and the results showed that refractive index and saponification values were not affected by grilling process. However, serious increases in oxidative deterioration parameters and color were noticed. The main objective of this study was to characterize the effect of grilled fat on body weight, liver function, chromosomal aberrations and micronucleus formation in rats. Eight-week-old Swiss male albino rats, weighing approximately 90 g were used in this study. Rats were fed on a diet containing grilled fat for two months showed insignificant decrease in body weight compared to the control except, the eighth week (last weighing). The serum analysis showed that aspartate transaminase (AST), cholesterol, creatinine and urea levels increased significantly whereas, alanine transaminase (ALT), and triglyceride levels were not affected. Also, cytogenetic analysis showed various types of chromosomal aberrations, i.e., chromatide breaks, ring chromosome, fragment chromosome, and end to end association chromosomes and insignificant increase in the frequency of micronucleated cells.

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