"USE OF IONIZING RADIATION TO ENSURE HYGIENIC QUALITY OF PORK MEAT AND SEAFOOD"

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Whole carcasses of pork infested by *Taenia solium* were irradiated under gamma irradiation from cobalt-60, and electron beam from a LINAC - 8 MeV. The irradiation doses given to samples were 7.0 KGy of Gamma rays, at a dose rate of 1.40 KGy/hour, and 3.0 KGy of electron beam at a dose rate of 1.80 KGy/min. Fifty cysticerci isolated from each muscle section after gamma irradiation did not evaginate, suggesting that an irradiation in such conditions is feasible, even at that low dose rate. On the contrary, the cysticerci isolated from carcasses irradiated with accelerated electrons with a dose of 3.0 KGy, at a dose rate of 1.80 KGy/min, evaginated up to 80%, when they where located at the interior of thighs, due to the low penetration of beta particles. Metacestodes located close to carcass surface did also evaginate but they did not develop suction cups. By the results gotten in this study, it can be concluded that carcasses of pigs infested by *Taenia solium*, could be irradiated with gamma rays to prevent the development of the tapeworm in humans.

The use of electron beam is not suitable to treat infested carcasses, but it is effective if the infested meat is irradiated in filets or ribbons not thicker than 3 cm. In a separate study to ensure the hygienic quality of food, we investigate the effectiveness of electron beam irradiation to disinfect "ceviches", a popular meal, when several samples were inoculated with pure strains of *Vibrio cholerae* 01, biotype ElTor and serotype Inaba. The infected samples were irradiated after the incubation, under electron beam giving a dose of 1.60 KGy at a dose rate of 1.80 KGy/min. From each set of "ceviche" irradiated samples were taken aliquots to incubate and see the colonies of *V. cholerae*. Since no one of samples developed *V. cholerae* colonies, it was concluded that irradiation of "ceviche" samples, eventually infected by *V. cholerae*, could be consumed safely. Sensorial tests carried out with irradiated pork meat and several kinds of "ceviche" did not show statistical differences between irradiated and unirradiated samples.

REFERENCES


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