P65. HOW MUCH IONIZING RADIATION MAY INDUCE NEGATIVE EFFECTS ON RESISTENCE PROPERTIES OF DOUBLE PACKAGING FOR MEDICAL PRODUCTS PROTECTION?

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The integrity of materials containing packaging (natural or synthetic polymers) is essential to keep the asseptic condition of commercialized products (health care products, food and pharmaceuticals). The objective of this paper was to study gamma radiation effects (25 kGy, 40 kGy and 50 kGy) on the main physical properties of surgical grade paper and multilayer films (polyester + polyethylene and polyester + polypropylene). Surgical grade paper and multilayer films are components of packaging system for radiation sterilization containing medical equipment or products. From the results we may point out that paper was more radiation sensitive samples among the studied materials and radiation effects were more pronounced for brightness, pH, tearing resistance, bursting and tensile strength. The porosity of paper was enhanced at 50 kGy. On the other hand tensile strength was the more pronounced effect for plastic films on the studied conditions. Regarding double packagings, the sealing resistance decreased with increasing dose. ABNT NBR 14990 (Brazilian standard methods) was applied for determination of studied parameters to confirm requirements for radiation sterilization suitable conditions.