MICROSATELLITE INSTABILITY AND METHYLATION ANALYSIS IN SPORADIC BREAST CANCER PATIENTS FROM RIO DE JANEIRO

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Breast cancer is the most common malignant tumor in women and is responsible for the majority of death by cancer in western women. In Brazil, 49.000 women developed breast cancer in 2006. Most of the cases appear to be sporadic, but hereditary factors may be involved in about 5-10% of all cases. In general, the activation of oncogenes and inactivation of tumor suppressor genes underlie carcinogenesis and tumors develop through an accumulation of several genetic alterations. We aimed to study genomic instability and methylation status of breast tumor samples. The DNAs were extracted from fresh frozen and paraffin-embedded tissues from mastectomy of patients from the Mastology Service at Instituto Fernandes Figueira (Fiocruz, Rio de Janeiro). To overcome genomic instability we analyzed 12 microsatellite loci at 25 pairs of tumor and normal samples. The PCR reactions were carried out and the products were separated in a 6% polyacrilamide gel electrophoresis followed by silver nitrate staining. Microsatellite instability was verified in TP53 intron 1 and D17S796 locus, which is a flanking region of TP53. We also analyzed the methylation status of the tumor and normal samples, by *Msp*I and *Hpa*II methylation-specific restriction enzymes digestion, followed by amplification at TP53 promoter CpG islands.

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