

**TITLE:** ANALYSIS OF SKIN MICROBIOTA ALTERATION IN PATIENTS AFTER CHEMOTHERAPY TREATMENT

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**ABSTRACT:**

The human body is inhabited by millions of microorganisms, which play an auxiliary role in the digestion and absorption of nutrients, as well as in the immune defense of the host. The human skin contains an immense number of microorganisms, which vary with the local interferences and appear different according to the area where they inhabit. It has been known that some strains of *Staphylococcus epidermidis*, the main microorganism found in the skin, can produce a substance called 6-N-hydroxyaminopurine (6-HAP) that inhibits DNA synthesis, disrupting tumor growth. However, such microorganisms are in constant modification due to some disturbances. The chemotherapy is a very aggressive treatment for human cells and that it can cause symptoms on the skin of individuals undergoing such treatment. Therefore, this research is an evaluation of the changes caused by the epidermal microbiota in cancer patients after the chemotherapy treatment. The methodology consisted in the collection, using a sterile swab, of skin samples from patients pre- and post-chemotherapy treatment, and in the analysis of the samples, which were sown in three culture media with different properties. Subsequently, the main bacteria that grew in the medium were isolated and determined by means of Gram staining and biochemical identification tests. We identify a change in individuals' microbiota after chemotherapy, when analyzed at the species level. The *Staphylococcus* were the *Firmicutes* most found in the research, but when we identified the species, we verified that there was a variation in the species identified in relation to the control group, which did not present any changes. It is noteworthy that, despite the qualitative changes detected, the microorganisms *Staphylococcus epidermidis*, the main colonizers of the skin and that have a beneficial role for the host, were preserved. Therefore, our results are positive when evaluated from a collaboration point of view to improve patients' quality of life. A more complete analysis of the microbiota is now required through molecular techniques, so that quantitative results can be verified.

**Keywords:** microbiota, skin, chemotherapy

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