

## **A Microbiological Study for Evaluating Olive Leaf Extract as a New Topical Management for Oral Mucositis Following Chemotherapy**

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### **SUMMARY**

**Background:** Oral mucositis is a common complication of intensive cancer chemotherapy and radiotherapy. It often results in intense pain, and inability to eat and drink leading to secondary malnutrition and dehydration. Accordingly, all these will impose an extra burden on the quality of life of cancer patients. Generally, treatment for chemotherapy induced oral mucositis is largely palliative and no adequate treatment with conclusive evidence exists.

**Objectives:** The objectives of the present study were to evaluate the potential effect of olive leaf extract as a local treatment for chemotherapy induced mucositis. The role of oral flora in developing oral mucositis was also assessed. Therefore, olive leaf extract was investigated thoroughly through microbiological Study. The results were compared with the action of benzydamine HCl as positive control and normal saline as negative control.

**Materials and methods:** Thirty patients under intensive chemotherapeutic treatment were included for assessment of the oral flora changes. An oral rinse with 10mls isotonic saline was collected from each patient prior to and 1, 2 and 3 weeks after chemotherapy administrations. Oral mucositis was assessed weekly before taking the mouth rinse applying WHO toxicity grading and OMAS mucositis score. The oral mouth rinses were cultivated and identified according to microbiological methods; and the antimicrobial activity of olive leaf and benzydamine HCl against preisolated microorganisms were studied by employing tube dilution and agar diffusion methods for measuring MIC, MBC and MFC.

**Results:** There is no significant correlation between the mean OMAS mucositis score and total bacterial count was found. Both olive leaf extract and benzydamine HCl showed broad spectrum activity against the isolated microorganisms.

**Conclusions:** olive leaf extract was effective in reducing the incidence and decreasing the severity of oral mucositis when compared to benzydamine HCl and placebo groups. Accordingly we suggest using this medication for oral mucositis as a safe (herbal) and effective treatment modality.