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Methanolic extract of pistacia lentiscus (MEPL) reveals anti-cancer activity and increases chemosensitivity in primary high-grade serous ovarian cancer cells

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Ovarian cancer remains the most lethal gynecologic cancer in women. More than 60% were diagnosed at advanced stage and the mortality did not significantly improve over last years. The poor prognosis and high mortality show that the current therapies often fail and novel approaches are urgently required in order to enhance the prognosis of the disease. In our study, we investigated the effect of the leaves of *Pistacia lentiscus and Fraxinus angustifolia*, two Algerian medicinal plants using in traditional medicine since 15th-16th centuries in ovarian cancer. The different extracts were obtained in different organic solvents ethanol, methanol and acetone, and tested towards two ovarian cancer cell lines A2780 and SKOV3. We determine that the methanolic extract of *P. lentiscus* exhibit a cytotoxic potential in A2780 and SKOV3 cells. The active extract (MEPL) induced apoptosis and cell cycle arrest in these ovarian cancer cell lines. However, the widely used cell lines SKOV-3 and A2780 were implicated as not being representative of the major HGSC subtype because of the wild-type p53 status. In order to investigate the mechanism of action (MoA) of MEPL also in patients with the most common subtype of EOC (HGS), we conducted the preclinical study using newly established primary cell lines from ascites of high grade serous ovarian cancer patients. The results show that MEPL inhibit PI3K/AKT and MAPK/ERK signaling pathways and decreased release of IL6 and VEGF by the malignant cells. Moreover, treatment with MEPL increased the sensitivity to chemotherapy in our primary cell lines of HGS ovarian cancer patients and might be a promising novel combination therapeutic approach with patients in this histological subtype of ovarian cancer.

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A prospective study on chemotherapy induced anemia in cancer patients undergoing treatment using serial hemoglobin measurement at the National Hospital Abuja, Nigeria

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Introduction: Anemia is a common complication of myelo-suppressive chemotherapy. Severe anemia is usually treated with red blood cell transfusion; however, mild-to-moderate anemia most often is managed conservatively. There is no universally established benchmark of hemoglobin of patients selected for cancer chemotherapy to inform a global best practice and increase patients treatment outcome and quality of life.

Objective: To examine the change in Hb level of cancer patients undergoing chemotherapy using serial Hb measurement.

Materials & Methods: A total of 100 voluntary patients with solid malignancies were recruited within a period of 8 months. Baseline demographic characteristics and type of tumor were obtained. Pre-treatment Hb level was measured on first day of consultation and repeated every 2 weeks during the therapy until after three consecutive Hb readings.

Results: Data collected was analyzed using SPSS version 10. Out of the 100 cancer patients, 88% were female. Breast 68% (68) was commonest site of tumor. Prevalence of anemia in the study was 72% and majority of patients had their Hb at the end of therapy within the range of 9.60 to 10.62 g/dl. At P-value>0.05, there was no statistical significance on distribution of mean hemoglobin, standard deviation based on sex and treatment type.

Conclusion/Recommendation: Chemotherapy has no significant effect on Hb especially in patients with high baseline Hb level between 11 g/dl to 12 g/dl in our study. Prevalence of anemia in the studied patients was 72%. We recommend a benchmark of Hb of 11 g/dl minimum for any patient being selected for chemotherapy in Nigeria.

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