

with laser and optical irradiation); 3. associated treatment – trophic with laserotherapy; 4. control group. Therapeutic benefits, improvement of vaginal atrophy and quality of sexual life were objectified by anamnesis (questionnaire), local clinical examination and vaginal cytological exam. The best results have been obtained with associated therapy immediately followed by unique LT. In conclusion, LT can be considered the best way to improve vaginal atrophy in postpartum period and obviously in restarting sexual life.

A SINGLE APPLICATION OF LOW-LEVEL LIGHT THERAPY IN BREAST CANCER-BEARING MICE: IMPACT ON BLOOD CELL COUNT

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Low-level light therapy (LLLT) has been used in healthcare as a therapeutic strategy for diseases of various aetiologies. However, its effects on cancer is controversial. The aim of this work was to evaluate the effects of different light doses on blood cell count of breast cancer-bearing mice after a single application of LLLT. Tumour was induced by inoculation of 4T1 cells into the mammary fat pad of female BALB/c mice. Tumour volume was monitored with a digital calliper and when it reached 100 mm³, animals were irradiated by a red LED irradiator (660 ± 20 nm) at irradiance of 24.3 mW/cm². The animals were randomly divided into groups (n= 5/group) that received energy densities of 1.8, 5.6 and 9.4 J/cm². Control group was equally manipulated but did not receive irradiation. After treatment, data as tumour volume, platelets, white and red cell levels were registered weekly during 21 days. Our results showed that irradiated groups presented a longer survival compared to the control group, although no significant differences were observed among groups regarding tumour volume. Platelet levels of the irradiated groups remained closer to the reference values of healthy animals. Regarding the total number of white and red cells, no significant differences were observed between control and treated groups. These findings indicate that LLLT in a single application did not arrest tumour growth but may maintain platelet levels to increase survival of mice regardless the energy density protocol used.

FLUORESCENCE SPECTROSCOPY AS DIAGNOSTIC TOOL FOR PRECISION MEDICINE

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Background: Laser spectroscopy based on a molecules contribution analysis is a promising tool for precision medicine at point of care.

Purpose: A search of personalized diagnostic algorithm to improve accuracy of fluorescence spectroscopy based diagnostics of the cervix uterus pathology.

Material and Methods: Liquid Cervical smear sediment fluorescence induced by 355 nm laser light was investigated; the cases were divided in personalized subgroups. Spectra in the subgroups were classified according pathology, cytology and gene markers.

Results: Best basic accuracy ($[(Se+Sp)/2]$) was achieved for Cancer pathology (89%) for all subgroups, following by gene marker (80.8%), cytology

(78.0%) and CIN 2 pathology (76.4%) in certain subgroups. Best PPV (93.0) was achieved for cytology groups HSIL versus LSIL+Normal discrimination, also best NPV (97.7) was determined for Non-cervicitis and Non-cancer discrimination.

Discussion and Conclusion: Personalization of patients and optical sub-molecular (fluorophore) spectral data comparison provides medicine with high classification accuracy. Fluorescence spectra provide the multi-marker signatures relevant for precision medicine requirements. Physical optical diagnostics ensure precision and remote “at point of care” approach for personalized medicine, and it should be developed parallel to chemical methods.

Reference

1. <https://doi.org/10.15388/NA.2018.3.1>

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THERMOPHLEBOLOGY: USE IN DIAGNOSIS AND LASER TREATMENT OF VARICOSE VEINS

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Varicose Veins are the most common lesions evolved to Chronic Venous Disease In this longitudinal retrospective case control of 200 patients evaluated with age range between 15 to 80 years – old associated with Chronic Venous Disease (CVD) symptoms. We use a Infrared Thermography and Color Doppler Ultrasound to determinate anatomic geography of varicose lesions, as well to establish a CEAP staging of CVD. CEAP 0 stage are found in 20% of cases; CEAP 1,2,3 stage are 30% of cases and CEAP 4,5,6 stage are 50% of cases. Nd: YAG Laser and Diode 980nm are used for Treatment of lesions. We found that Infrared Thermography are an excellent tool to evaluate early stages of CVD who are negative to Doppler Ultrasound. Also a range of clinical cases are associated with L3, L4, L., S1 Radiculopathy pain with a variation of 1 to 2 Celsius degrees founded by Infrared Thermography.

Keyword (S): Infrared Thermography, Phlebology, Varicose Veins, Chronic Venous Disease (CVD) , CEAP Classification, Nd:Yag Laser, Diode 980nm Laser.

LASERLIPOLISIS ULTRASOUND GUIDED. PRESURGICAL, INTRAOPERATORY AND POSTOPERATIVE FOLLOW UP EVALUATION WITH INFRARED THERMAL SCAN. A CASE STUDY

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Laserlipolisis Ultrasound guided is currently the most accurated method to perform in-plane Laser liposuction, in order to maintain a final regular fat residual layer, avoiding unwanted textures and appearance final results in skin of patient treat with Laser Surgery. Also the Laser skin tightening can be accurately perform with the assistance of Infrared Thermal Scan, in order to avoid skin lesions, such a skin burning and neuritis during the lasing process. A Longitudinal retrospective case control are evaluated in 80 patients, with Presurgical – Follow up, and in some cases, intraoperative Infrared Thermal Scan. The result shows 0% of skin damage in Laser skin tightening process, also none of these patients have burning and skin neuritis after Laser Procedure. We found a 40 to 60% of skin