Laser therapy can aggravate skin cancer

November 20 2009

High irradiances of low-level laser therapy (LLLT) should not be used over melanomas. Researchers writing in the open access journal *BMC Cancer* studied the pain relieving, anti-inflammatory 'cold laser', finding that it caused increased tumour growth in a mouse model of skin cancer.

Jan M. Bjordal from Bergen University College, Norway worked with a team of Brazilian researchers to carry out the in vitro and in vivo experiments. He said, "LLLT has gained increasing popularity as a treatment for soft tissue injuries and joint conditions. However, there is a shortage of evidence, especially in vivo evidence, about the effects of LLLT in malignant conditions such as melanoma".

Bjordal and his colleagues applied LLLT to cancer cultures and to mice injected with melanoma cells. Although the treatment did not cause any significant changes in the cell cultures, direct irradiation of the tumor with high-dose LLLT caused a significant increase in tumor mass volume and considerable histological alterations, indicating a worsening of the cancer, in the mice. The researchers write, "A high irradiance (2.5W/cm2) combined with high dose of 1050 J/cm2, can stimulate melanoma tumor growth with distinct histological features in vivo".

"It is important that this contraindication is implemented into clinical practice so that LLLT can remain a safe treatment", says Bjordal.

LLLT was pioneered in the 1970s, when it was discovered that light from low-intensity lasers causes cells to proliferate more rapidly. It is marketed as a treatment for hair-loss, pain management, sports medicine

and skin care - among many other things. Home-treatment sets are available online for unsupervised use.

More information: The effect of low-level laser irradiation (Ga-Al-AsP - 660nm) on in vitro and in vivo melanoma, Lucio Frigo, Juliana SS Luppi, Giovani M Favero, Durvanei A Maria, Socrates C Penna, Jan M Bjordal, Rene J Bensadoun and Rodrigo Alvaro Lopes Martins, *BMC Cancer* (in press), www.biomedcentral.com/bmccancer/

Source: BioMed Central (news : web)