EDITORIAL

The living cells require an optimal temperature for their normal functions including regeneration. Various Laboratory experiments at cellular and subcellular levels have shown that the mitotic activities of the cells are greatly affected by variation in temperature. It has been found that hyperthermia decreases, the mitotic activity of the cancer cells and therefore slows down its growth. It is also probable that it makes the tumour cells more sensitive to chemotherapeutic agents as well as radiations, by affecting the blood circulation of the tumour and by modifying the antigenic character of the cancer cells hyperthermia may have an important role to play in the tumour ablation.[1-6]

The antigens of the class-I major. Histocompatibility complex (HMC) play a pivotal role in killing the tumour cells by cytotoxic T lymphocytes (CTLs). The Histocompatibility antigens (HLA in human) are first recognised by the cytotoxic T lymphocytes as self or non-self. In case of non-self the CATLs become sensitized and kill the target cells by mounting a cytotoxic (Cytolytic) action against them. The tumour cells carry antigens on their surface which are recognised as non-self and therefore make these cells vulnerable by CTLs. This immune serveillance of the tumour by CTLs is enhanced by hyperthermia because the heat causes aggregation of HLA antigens on the surface of tumour cells causing more rapid and effective killing of these cells by CTLs.[7-9]

A host of workers in the recent past have used hyperthermia on experimental basis for the treatment of tumours. They used hyperthermia alone or in various combination with other conventional methods in use for the tumour treatment. They found the method effective and successful.[4-6]

Recently Dr. Rana in his control study applied hyperthermia as a treatment on experimental basis on the human squamous cells carcinoma cells grown in nude mice. The tumour cells were isolated from the female cervical carcinoma. The worker used hyperthermia in combination with radiotherapy, hyperthermia with chemotherapy. In addition he also used hyperthermia in combination with prostaglandins. In his experimental study Rana found a significant cytopathic effect of hyperthermia on the cancer cells.

Squamous cell carcinoma of the cervix is the most common genital tract cancer and the second most common among all the female malignancies in Pakistan.[1] The successful experimental applications of hyperthermia in killing cervical carcinoma cells may have practical value in its treatment. The time has come that this new strategy be evaluated by its actual use in the treatment of cervical cancer.

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