CORRESPONDENCE

Cancer Therapy During Ramadan

During the period of Ramadan, which is the 9th month in the Islamic calendar, Muslims practice daily fasting for the entire month, giving up all nourishment (including liquids) from sunrise to sunset. For healthy individuals, this period of fasting usually does not present a problem. However, such fasting among people who are sick, travellers, or pregnant or lactating mothers is potentially hazardous to their health, causing such conditions as electrolyte disturbances (e.g., increased sodium, potassium, and uric acid levels or decreased glucose concentrations) and dehydration-induced cardiovascular problems (1,2). It was reported previously (3) that individuals participating in the Ramadan fast experience transient cognitive and intellectual dysfunctions such as impaired concentration, attention, and work performance.

Researchers in many fields of medicine have investigated the feasibility of specifically modifying the time and type of drug treatment for fasting patients out of respect for their religious beliefs (4). Oncologists who practice in an Islamic country and treat patients with cancers, however, are faced with a difficult problem: Some of their patients are determined to abide by their religious custom of fasting during Ramadan despite the existence of limitations such as impaired performance status or ongoing therapy. Although cancer patients may be exempt from fasting during Ramadan according to the holy Quran, they may be motivated to follow their religious beliefs. This increased motivation to fast is usually seen concurrent with changes in mood or self-esteem and with anxiety-related, depressive, or even nihilistic symptoms (i.e., skepticism regarding traditional values and beliefs). In our oncology institute, we occasionally see patients who are reluctant to accept conventional therapeutic modalities, who deny their own diseases, and who sometimes use over-the-counter drugs and/or folk remedies during Ramadan. Obviously, a persuasive, firm approach by physicians to convince their patients to refrain from fasting might work in some patients; however, it might cause other patients to distrust their physician, which in turn might lead to a breakdown in communication or a loss of the patient to follow-up, as we have unfortunately experienced on several occasions. Nevertheless, we try our best to persuade the patient with a curable disease, such as lymphoma or germ cell tumor, to continue to receive chemotherapy even during the time of Ramadan.

Further knowledge derived from studies of chronotherapy (5), a topic of current interest in which therapy is adapted to circadian rhythms, will undoubtedly lead to new therapeutic strategies in fasting patients. In the meantime, these patients should be preferably treated by a team made up of the medical oncologist, the psychiatrist, and perhaps a local religious authority figure.

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similar significant prolongations in normal quality-of-life parameters, such as physical symptoms, anxiety, and depression (all values P<.04, repeated-measures analysis of covariance) (5).

The above data, in conjunction with the meta-analysis presented by the authors, help us to define more clearly the potential survival advantages with the use of HAI in the treatment of patients with nonresectable liver metastases from colorectal cancer.

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Re: Telomerase Activity in Human Breast Tumors

Hiyama et al. (1) have recently investigated telomerase activity in human breast tumors. They examined 140 breast cancer specimens and found that stage classification exhibited the strongest association with telomerase activity.

Telomerase activity was detectable in all stage IV and in 96% of stage III cancers compared with 68% of stage I tumors, suggesting possible associations between telomerase activity and prognosis. However, follow-up data are required to address this issue. Hiyama et al. also suggested that telomerase reactivation is an important step in the progression of normal breast epithelial tissue to breast cancer, as was previously hypothesized (2). Since it is thought that ductal carcinoma in situ (DCIS) represents an intermediate step in the progression process to invasive cancer, it is important to investigate telomerase activity in DCIS lesions. Surprisingly, none of the 182 breast lesions that Hiyama et al. (1) studied were DCIS.

Hiyama et al. (1) were also able to detect telomerase activity in 14 samples obtained by fine-needle aspiration (FNA). All the 14 lesions were subsequently excised and were found to be invasive ductal carcinoma. This result is of great clinical importance and may increase the value of cytologic diagnosis. Since most DCIS lesions present as mammographic microcalcifications during breast screening, telomerase activity can be measured in samples obtained by stereotactic FNA of such nonpalpable lesions. Relationships of telomerase activity with histopathologic type and with other prognostic parameters such as c-erbB-2 should be investigated. Such an analysis will cast more light on the role of telomerase in breast carcinogenesis and on the natural history of DCIS.

Finally, the effects of tamoxifen on telomerase activity are worth investigating. This study could be carried out by performing a telomerase assay (TRAP—for telomeric repeat amplification protocol) (3) on breast cancers treated primarily with tamoxifen alone (core biopsy or FNA samples analyzed before and after treatment) or by adding tamoxifen directly to the tissue extract containing the enzyme.

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Response
We appreciate the large amount of interest our work on telomerase activity in human breast cancer (1) has generated. We completely agree with the comments of Mokbel and Ghilchik about the need to examine earlier steps in progression to invasive breast cancer to determine if telomerase activity may be informative as a potential surrogate endpoint biomarker of cancer. Since telomerase activity is detected in preneoplasia in other diseases, it would not be surprising to detect telomerase activity in breast carcinomas in situ (CIS).

While additional studies are required to validate and extend our initial observations, we (2) and others (3-5) have recently obtained data directly addressing some of the issues raised. Both ductal (DCIS) and lobular (LCIS) carcinomas in situ have been examined. From David Tarin’s laboratory, University of Oxford, U.K. (4), neither of two DCIS specimens examined had detectable telomerase activity. In contrast, Marcelo Aldaz’s group at The University of Texas M. D. Anderson Cancer Center, Houston (3), demonstrated that