

Perspectives and Commentaries

Delay in Diagnosis of Colorectal Cancer

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(A COMMENT ON: Robinson E, Mohilever J, Zidan J, Sapir D. Colorectal cancer: incidence, delay in diagnosis and stage of disease. *Eur J Cancer Clin Oncol* 1986, **22**, 157-166.)

THE study of Robinson *et al.* [1] presented 445 patients with colorectal cancer all of whom were referred to the Northern Israel oncology center for further treatment and follow up. The authors compare the incidence of the disease amongst the various ethnic groups living in Israel: occidental, oriental Jews and Arabs.

As expected, the incidence of colorectal cancer is higher in occidental than in oriental Jews and in Arabs. The variation in the geographic pattern of colorectal incidence is well established and may vary considerably between western and African or Asian countries. Environmental factors and diet seem to play a major role in the etiology of this cancer [2]. The persistence of a difference in the incidence of colorectal cancer amongst occidental and oriental Jews indicates that contrary to what happened in the various ethnic groups migrating to the United States, differences in life style still remain operative.

The authors also studied the consequences of a delay in diagnosing cancer on tumor staging in the various ethnic groups. It seems logical to state that there is a positive relationship between the delay in diagnosis and the stage of the disease; however, this has not been demonstrated in all series [3-5].

An analysis of Robinson's study stresses the many methodological problems that may arise in this kind of study. Were all the operated patients really referred to the hospital? Patients with the very early and most advanced stages may not have been sent to the oncology center. Similarly the

oriental Jew, less familiar with the modern medical standards may avoid asking for further treatment. How were the pathological data standardized? Differences in techniques used for identifying lymph nodes may considerably influence the result [6]. How was the information concerning the first symptoms collected? What were the first symptoms? One episode of diarrhea or severe pain in the abdomen is not inevitably related to the diagnosis of colorectal cancer 6 months later. The bias due to non-homogeneous data might explain some paradoxical results. In 81 cases of rectal cancers, the distribution of patients with no delay in diagnosis within the Dukes classification is as follows: A 12.5%, B 62.5%, C 3.1%, D 21.8%. Since the rate of A, B, D corresponds to what may be expected and published in large series in the literature, the low rate of C cases is probably due to a bias in patient selection. It is worth noting that a determination of the Dukes stage is available in 81 patients only when 168 patients of the series have a rectal cancer. Therefore, the results presented by Robinson *et al.* must be interpreted with caution. The conclusion that the delay in diagnosis, occurring significantly more often in oriental Jews, determines more advanced stages is not substantiated by the data. If indeed more patients have Dukes C than Dukes D disease amongst the occidental Jews with colon cancer, 33.6 vs. 14.4%, whilst more of the oriental Jews have Dukes D than Dukes C disease, 33.3 vs. 6.7%, they also have more Dukes B disease than the occidental Jews, 60 vs. 46.6%. As Dukes B cases account for about 50% of the patients one may assume that overall, oriental Jews, despite more delayers might have at least a comparable outcome to that of occidental Jews.

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It is also concluded that patients with Dukes C disease have a higher incidence of delay than those with Dukes B (45 vs. 30%) or Dukes A (2%). These results are established on patients with delay only. Although rough data are not given, the percentage of stage I (Dukes A and B), is for the non-delayers and the delayers, respectively of 47.7 and 52.3% in rectal cancer, 50.9 and 49.1% in colon cancer. One might have expected a significant increase in the rate of stage I for the non-delayers.

It seems illogical to support the view that the delay between the first symptom and the diagnosis has no influence on survival. The cancer patient will die from his disease which progresses inevitably, more or less rapidly, depending on tumor aggressiveness. However, it is apparent that the tumors that are highly malignant rapidly produce symptoms that demand urgent care and those of lower malignancy may be amenable to cure even after a long period of time. It is known that there is no correlation between the tumor size or histological grading and the duration of the symptoms except for poorly-differentiated rectal tumors with short history [3]. Moreover, in patients less than 40 years of age, poorly-differentiated adenocarcinomas are present in half of the cases and the 5-

year survival rate is only 22%. It seems that survival is determined by the invasive nature of each tumor and cannot be related to the duration of the symptoms, some of the advanced tumors having a short history of symptoms and some less invasive tumors having a long history [4, 5].

The identification of prognostic factors is important in the analysis of studies comparing treatment. Dukes classification and histological grading are important prognostic factors. The way they are reported should be clearly defined and standardized [7]. Other, not yet well-identified biological characteristics may also play a major role as well as the fact that colorectal cancer may be constituted by more than one cell line [8]. The influence of a reduction in the duration of delay before diagnosis and treatment might be apparent only in subgroups of tumors with similar aggressiveness or when a group of tumors is large enough to include those of varying degrees of virulence.

If, indeed, educational programs aimed at achieving earlier diagnosis should be encouraged, mass screening of asymptomatic patients still remains investigational [9] and cannot be recommended.

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