EDITORIAL

RESULTS OF TREATMENT OF COLORECTAL CANCER IN SINGAPORE – CAN WE DO BETTER?

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Cancer of the colon and rectum has a varied geographical distribution: it is common in Europe, North America and Australasia but uncommon in Africa, Asia and South America (1). The incidence in Singapore, however, is high for an Asian country: in male the standardised rates are 14.3 per 100,000 for colon and 12.5 for rectum; in female they are 14.9 for colon and 10.0 for rectum (2). The incidence is similar to that of West Germany and Scandinavia. Together cancer of the colon and rectum is the second commonest cancer in Singapore, second only to lung cancer (Fig 1).

Malignant disease is now the commonest cause of death in Singapore and colorectal cancer comprises 12% of all malignancies. It, therefore, poses a major health care problem. This is especially so because the incidence is increasing by 3-6% per year (3). Unlike cancers of the lung, stomach or liver, colorectal cancer has a relatively good survival. Even for surgically incurable disease (Duke's D), the median survival is eight months. Thus the prevalence (the total number of cases in the population) would be greater than lung cancer which has the highest incidence (4). In practice, one is more likely to see repeated hospital admission and surgery for colorectal cancer. Its demands on health services would be greater than its incidence implies.

In a study of 219 cases of colorectal cancer treated at the University Department of Surgery over 1982-1983, the probability of survival at 5 years was 45% (5). The most significant determinant of survival was Dukes' stage with survival of 71, 55, 36 and 16 percent for Dukes' A, B, C and D respectively. The distribution of patients was 25, 18, 26 and 31 percent for the respective Dukes' stages. These survival results compare favourably with Western reports (6, 7).

Surgery is the main stay of treatment. Radiotherapy and possibly chemotheraphy may have a role in reducing local recurrence in rectal cancer, their role in colonic cancer has been disappointing. Unfortunately they do not affect survival (8, 9). For different surgeons, operative morbidity and mortality vary and survival results in specialist centres are consistently better than cumulated national figures (10). In a recent trial of adjuvant therapy for curatively resected cancer the survival of its control arm, (ie. the group with surgery alone), was much better than expected. These findings imply that results could be improved if surgical standards seen in specialists units could be attained and practised by all.

Tumour recurrence following curative resection often bring despair to both, the patient and the surgeon. Yet recurrence is common : in a study with 80% post mortem rate and 18 year follow up Carlsson et al (11) found that the total recurrence rate was 54% and the local recurrence rate was 38%.

In Singapore, follow up is based on symptoms and clinical examination; CEA level, barium enema, colonoscopy or ultrasound are ordered only if indicated. The efficacy of such practice has not been systematically evaluated or documented in local practice but detection of resectable recurrence has been rare. Waldron and Donovan (12) from Birmingham reported that only 4% of operable local recurrence were detected through clinical follow-up. The great discrepancy between clinically detected and actual recurrence highlights the urgent need for establishing an effective protocol for follow-up using methods which have shown some promise in detecting recurrence; regular CEA or CA 50; liver and endorectal ultrasound; colonoscopy and CT scan. This is particularly so as liver and colonic resection for recurrence have now been shown to give 25-30% 5-year survival with acceptable operative mortality (13, 14). To be realistic, even with optimal surgery and follow-up, one could not expect to improve overall survival by more than 10%. However, this may represent 40-50 patients per year. It is therefore worthwhile and this intensive follow up regime could be selective, excluding patients over the age of 70 and those who are unlikely to withstand repeat major surgery as well as limited to two years following resection as majority of recurrence (80-85) would occur within this period. With intensive follow-up being confined to a selective group of patients, costs could be contained.

The most promising approach to improving survival in colorectal cancer is through early detection by screening of asymptomatic individuals. Controlled trials on screening with a follow-up of two years have shown that faecal occult blood test over 3 days could detect twice as many cancers, half of which were confined to the bowel wall (Duke's A) (15). This result would have been much more significant considering that only 38.5% of the test group responded to the request for screening (the test group had a low compliance of 38%). In addition a significant number of large adenomas (>2cm) was detected in the test group. While the crucial question of decrease in mortality remains to be answered, screening of high risk groups (Table I) should be considered if the cost of a general blanket population screening is unacceptable.

Although Familial Polyposis Coli (FPC), now known as Familial Adenomatous Polyposis, an autosomal dominant condition, contributed less than one percent of the total number of colorectal cancer, it is important to recognise the condition as colorectal cancer in FPC is preventable. The incidence of FPC is estimated to be 1:18,000. With a 2.5 million population, 200 cases or 50 families with FPC are expected in Singapore. A polyposis register could be set up to identify affected indi-

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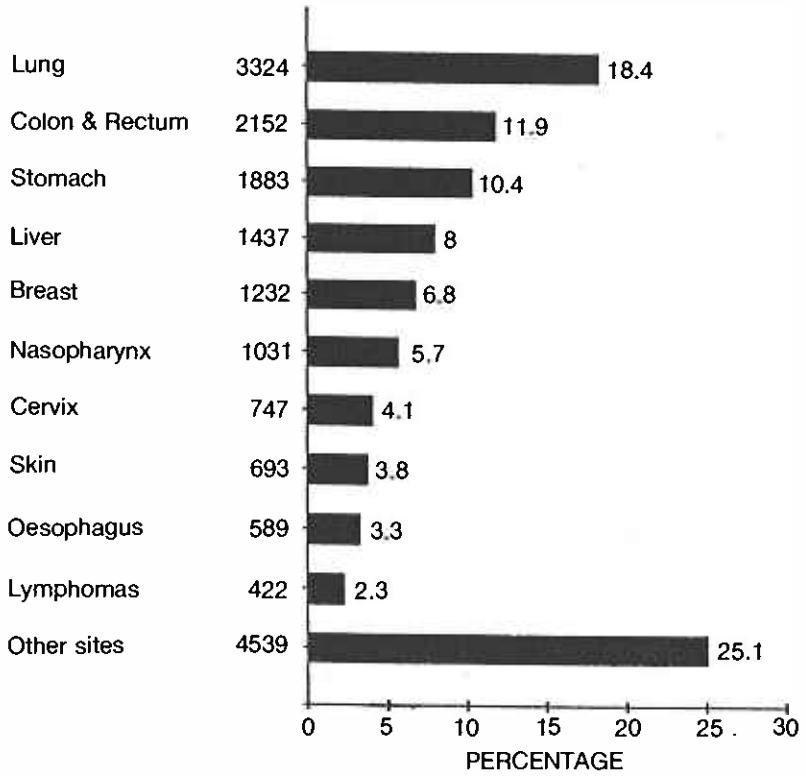
Fig. 1:
Incidence data for cancer among all Singapore residents for the period 1978 – 1982. (Males and Females)



viduals so that appropriate counselling and treatment could be carried out (16). This register could also include a larger group of patients with Cancer Family Syndrome where affected families are afflicted with various cancers particularly colorectal, uterine and ovarian (17). Again it is of autosomal inheritance. In the future, an individual with a genetic disposition to colorectal cancer may be identified by detecting a deletion of a protective gene in the long arm of Chromosome 5 (18, 19). Although this deletion was first found in FPC, 20% of sporadic cancer was also found to have such a deletion. Individuals with specific genetic defects could also be followed within the framework of a polyposis register. In this way up to 20% of colorectal cancer with a genetic predisposition may be identified and corrective manoeuvres taken before malignancy ensues.

The rapid increase in incidence of colorectal cancer in Singapore is attributed to diet. The current fat consumption in Singapore is 69.2 gm/capita/day and dietary fibre is 13 gm/day. There should be a concerted attempt to educate the public to increase dietary fibre intake in the hope that this cancer could at least be reduced if not prevented.

In conclusion, the prospects of reducing mortality of colorectal cancer are good. Better understanding would come as much work is being done at the molecular level to understand the pathogenesis of colorectal cancer. This would lead to better ways of improving treatment results. Meanwhile, the proposals discussed above could be selectively adopted to improve survival of colorectal cancer in Singapore.

Table I

High Risk Groups
1. Cancer Family Syndrome
2. Adenoma patients
3. Immediate relatives of colorectal cancer patients.
4. Immediate relatives of breast cancer patients.

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