CHAPTER TWO

CARCINOGENESIS AND CARCINOMATOSIS - PSYCHOSENSITIVITY

(Literature Survey)
2.1 Personality Predisposition:

The theory that cancer is more likely to develop in certain types of personality than in other goes back a long time; "melancholia", in particular, has usually been associated with cancer, although the meaning of that term is not always clear (Schwarz, 1987).

Is there any cancer-prone personality? Seems to be. The two characteristics most usually emphasized in the past, on the basis of detailed observation, were (1) the suppression of emotion, lack of outlets for strong feelings, and failure to express such emotion, and the inability to cope with interpersonal stress, leading to feelings of hopelessness and helplessness and finally depression, and a tendency to give up easily rather than fight.

By and large, there is now a good deal of evidence concerning the existence of a cancer-prone personality. Baltrusch et al (1988) have described this type of personality as over cooperative, appeasing, unassertive, over patience, avoiding conflict, seeking harmony, complaint, defensive in response to stress, and unexpressive of negative emotions such as anger and anxiety. Temoshok (1987) has used the notion of the "Type C" personality, first described by Morris (1980), to distinguish it from the "Type A" coronary heart disease-prone type or the "Type B", healthy type of personality.

Only a small number of studies have looked at this behavioural type in relation to survival. Although there is an increasing literature, which suggests that the "Type C" behaviour pattern
exists, further research is needed to clarify what constitute the important elements of this typology and any underlying physical mechanisms.

2.2 Psychogenic Stress:

Several studies have compared the experience of life events in patients with malignant and benign breast lumps. Despite ensuing similar life events inventories, the findings of these studies are inconsistent.

It has been observed that patients with cancer experienced significantly less change due to life events in the three years prior to biopsy than patients with benign tumors. In contrast, Priestman and his colleagues (1985) found no difference in the type of events or the amount of disruption they caused in women with benign and malignant tumors over the same time period. They did, however, find that an apparently healthy control group reported significantly higher levels of stress.

Jacobs and Charles (1980) ascertained life events for the two years before the onset of cancer in children. The cancer group experienced significantly more life events and change associated with these events than children with non-malignant disease.

The influence of stressful life experiences on the development of relapse in operable breast cancer has been examined in a case control study at Guy's Hospital, London (Ramirez et al, 1989). Severely threatening life events and difficulties were shown to be associated with first relapse of breast cancer. These included death of loved ones, but more particularly severe non-health events such as divorce and a son receiving a seven year prison sentence for
grievous bodily harm. Non-severe life experiences such as a routine varicose vein operation or minor road traffic incident showed no association with relapse.

2.3 Psychosocial Morbidity:

Identification Of Those At Risk — General Studies: Two studies (Schag et al, 1993), although reported separately, were part of one larger study to develop a model for identification of women at high risk. This study examined 227 women newly diagnosed, and hypothesised that a high risk group would have evidence of serious psychological, physical, treatment, relationship, and vocational and economic problems. These women often reported body image disturbance, with long-standing marital problems, and limited social support. At twelve month follow-up it was found that this characterisation in fact accurately identified a group of women with psychosocial problems of greater severity than women seen 'as low risk'. The other study was prospective (Bloom and Kessler, 1994), 661 women with breast cancer, compared with a non-surgical group. This study suggested that factors, which increased risk for psychosocial morbidity, were being younger, being divorced, being widowed, having more children under 21 years of age, experiencing the side-effects of treatment, poorer physical functioning, and overall perception of health. This study found that women over sixty years did significantly better than those under forty years of age.

Communication Issues: One study was part of a larger randomised controlled trial of pre-operative psychological preparation for mastectomy (Burton et al, 1994). It found that complaints were positively correlated with higher
overall distress scores. Patients suffering from other illnesses in addition to breast cancer and those whose cancer has recurred complained more about their care than did the other patients. This study did not address the issue of direction of causality, in that patients who are already depressed may have a more negative perception of quality of care. Lerman and his collaborators examined patient's perceptions of communication found that of 97 women assessed, 84% reported difficulty in communicating with their medical team.

Communication problems were strongly positively associated with total mood disturbance at baseline and three month follow-up. Of importance is the fact that providers did offer information and explanations, but many patients had problems in comprehending this information. A third study found that surgeon's use of basic psychotherapeutic techniques could have a significant positive influence on the patient's psychological well-being (Roberts et al, 1994). The study relied for recruitment of 50% of subjects on newspaper advertisements and announcements at professional meetings, so may not be representative of all women with breast cancer.

**Social Apathy And Deserted Woman**: One of the studies which was prospective evaluated 99 women having mastectomy or breast conservation surgery, finding that being married, and living together with a spouse seemed to protect a woman from developing various psychological problems as compared with being single, divorced or widowed (Omne-Ponten et al, 1992). Women, who were gainfully employed, seemed to have a higher risk of a poorer adjustment at four months than those not working, but this tendency was weaker at 13 months. Another study of 262 cancer patients, who were about to embark on chemotherapy or radiotherapy, found social support factors to have a protective
effect (Mor et al, 1994). This study also found lower levels of emotional well-being were associated with being unmarried and having a high school education or less. These women were about to embark on chemotherapy or radiotherapy, which may have influenced their perception of social support needs. A third study explored the effects of emotional support from three sources — family, friends, and spouses, as perceived and reported by breast cancer patients during the month immediately following active treatment of their cancer (Roberts et al, 1994). This study found modest correlations between greater psychological distress and lower levels of social support. Half of the sample size of 135 patients were recruited through newspaper advertisements or advertisements of professional meetings, and the sample population occupied a narrow socio-economic background with the majority of patients being white and middle class, so result should be interpreted with caution. Two further studies reported that perceived social support was associated with better social and emotional adjustment (Neuling and Winefield, 1988; Zemore and Shepel, 1989).

One study of a mixed cancer population also reported a significant independent association between support and control and adaptation outcomes (Ell et al, 1989).

2.3.1 Marital And Family Relationship: A prospective study examined women one week pre-mastectomy and then at follow-up three months and twelve months later, finding that women who were single had a better outcome than women who were married. The sample size was 122, and commonly used measures of psychological outcome were employed.

In a more recent study of 133 women, a cross-sectional analysis of the impact of the relationship with a partner on psychological response to breast
cancer was conducted. This study found that satisfaction with the partner supportive relationship was positively associated with psychological well-being and suggested that a poor relationship was a risk factor in women.

Depressed mood in the woman is reported as negatively affecting the quality of marriage, influencing the family’s ability to cope, leading to impaired functioning (Lewis and Hammond, 1992). The same authors reported that family coping behaviours figure prominently as a predictor of family functioning. Women who reported better adjustment to breast cancer also reported the highest level of family cohesion (Friedman et al, 1988), and husbands’ coping behaviours were reported as contributing to the wife’s mental health (Ptacek et al, 1994). The finding in mixed cancer patients spouses reported many adjustment problems as patients suggested, according to this study (Baider and De'Nour, 1988), that spouses should not always be regarded as the natural support system of the patients.

Two studies reported on marital functioning as a specific risk factor. One found that being married was positively correlated to intrusive symptomatology for women newly diagnosed with breast cancer (Tjemsland et al, 1996). A retrospective study of women who had undergone partial mastectomy and breast reconstruction found that a troubled marriage was predictive of greater psychological distress (Schover et al, 1995).

2.3.2 Events Affecting The Woman's Life: One prospective study examined 205 women newly diagnosed with breast cancer reporting high levels of psychological distress in 63.1% of women with a history of depression compared with 14.3% of those with no such history (p < 0.001) (Maunsell et al, 1992). In a
cross-sectional study women were asked about prior treatment for emotional problems and the use of psychotropic medications (Roberts et al, 1994). A history of psychiatric problems appeared to be a significant predictor of adjustment in this study.

A study of 22 women found that the presence of a previous psychiatric history was a risk factor at both mastectomy and the time of local recurrence (Jenkins et al, 1991). Here, of the 10 women identified as psychologically ill, seven had a previous psychiatric illness, six at the time of original mastectomy.

2.4 Life Events: A study of 205 women found that the number of stressful life events before diagnosis appeared to be a strong predictor of the risk of psychological distress. This study suggested that women who were already considerably burdened because of stress in their lives may be particularly vulnerable after a new difficulty such as breast cancer diagnosis and treatment. The other study reported in this area examined changes in the woman's life only in the year before her diagnosis, including parameters of health, work situation, home and family situation, personal and social life, and financial or legal status (Roberts et al, 1994). This study found life events to be a predictor of adjustment.

There were no studies that looked generally at past experience of loss, and only one looked at the issue of family history of breast cancer in a first degree relative, and its impact on adjustment. This study of 106 women who had been diagnosed with breast cancer in the previous one to two weeks examined traumatic stress symptoms (Tjemsland et al, 1996).
2.5 Characteristics In Risk Factors:

Age: Age is a salient factor to consider in the psychological adjustment of women with breast cancer near the time of initial diagnosis, with younger women exhibiting greater affective distress and a tendency to engage in less adaptive ways of coping. However, younger and older women do not differ in their adjustment over the subsequent course of their treatment and initial recovery.

At Diagnosis: One study found younger age to be positively associated with intrusive symptoms at assessment one to two weeks after diagnosis of breast cancer (Tjemsland et al, 1996). Another study of newly-diagnosed mixed cancer patients reported no disadvantage in adaptation or coping for those aged over 65 years compared with those younger than 65 years (Ell et al, 1992).

In one study of women followed up for 12 months after diagnosis, 40% of women aged less than 50 years were cases of mood disorder, compared with 13% aged greater than 50 years (p < 0.001) (Ramirez et al, 1995).

Following Surgical Treatment: One study comparing partial mastectomy and breast reconstruction reported that younger women in general had poorer adjustment, but age was not overall a strong predictor of psychological distress (Schover et al, 1995).

During Non-Surgical Treatment: One study examined 53 women, all of whom had undergone mastectomy for breast cancer, and who were scheduled to receive adjuvant chemotherapy (Jacobsen et al, 1993). Anxiety was found to be
most prevalent and intense before the first infusion, and this was more intense in younger patients. One study pooled results of two studies, looking at 262 women initiating chemotherapy or radiotherapy (Mor et al, 1994). This found younger women were better off in terms of socio-economic status, social support availability and extent of disease, subjectively they experienced the effect of their illness, more negatively, reporting higher levels of perceived emotional and financial distress, more unmet practical needs, and greater disruptions in their daily lives following treatments.

**Longer-Term Survival** : The only study that looked at age in the context of longer-term survival, studied 349 women (Vinokur et al, 1989). This study found a pattern of greater risk of poor mental health for younger patients with more recent disease, whereas older patients with more advanced disease were at greater risk of physical health problems. This study defined younger patients as those aged less than 65 years. There was considerable variation in time from diagnosis for patients in this study.

**Personality Characteristics** : In a prospective study of 269 women who had undergone mastectomy or breast conserving surgery, women in whom anxiety was a characteristic trait were more likely to perceive information as inadequate and to be clinically anxious, depressed, or both, at 12 months (Fallowfield et al, 1990). Two studies considered anxiety in relation to radiotherapy. One study of a mixed cancer population undergoing radiotherapy reported that those patients who were anxious and tense when they began the course of radiotherapy tended to have poorer functioning following the treatments (Graydon, 1988). The second study reported on 63 women randomised to four week or six week courses of radiotherapy following lumpectomy, and reported that trait anxiety was a robust indicator of response (Wallace et al, 1993).
One study examined 53 women commencing their first course of adjuvant chemotherapy, and found that trait anxiety was associated with anticipatory anxiety at both the first and second infusion (Jacobsen et al, 1993).

Delay In Seeking Treatment: The most comprehensive study examined 30 delayers, matched with 30 controls of similar age, who had presented early (Gilbar and Florian, 1991). Variables of education and depression predicted delay.

2.6 Psychosocial Adjustment And Coping With Stress:

(a) Diagnosis:

Only one study was identified which made assessment of women prior to biopsy and diagnosis of breast cancer (Stanton and Snider, 1993). This study had a subject size of 117, of whom 36 ultimately were found to have breast cancer, and 81 benign breast disease, overall the cancer patients reported more negative affects post-biopsy than the benign patients. Cognitive avoidance coping was an important predictor of high distress and low vigour of women assessed one to two weeks since the diagnosis of breast cancer. A second study reported that one to two weeks after diagnosis, 44% of women had a high level of intrusive symptomatology and 29% had a high level of avoidance symptomatology (Tjemsland et al, 1996). One further study found substantial variability in reaction to the diagnosis of breast cancer, although mood disturbance similar in level to psychiatric patients was found to occur in some cases (Romsaas et al, 1986).
(b) Short To Medium-Term Adjustment:

Gynaecological and breast cancer patients were analysed separately from other women and were found to have less depression, anxiety and hostility, less dramatisation, and less psychological distress. Overall these women were considered to demonstrate greater psychological well-being compared with the other women. In an attempt to evaluate rehabilitation needs, one study examined women on average thirty days following surgery (mastectomy or conservative (Ganz et al, 1987). The most commonly reported concerns of these women were in the physical domain. However, common psychological concerns were worry about recurrence, anxiety, depression, feeling overwhelmed by emotions related to the cancer, and worry about the family.

The next time frame reported is thirty to sixty days following surgery. One study examined the psychosexual impact on women who were post-surgery and about to embark on a course of radiotherapy (Ghizzani et al, 1995). Particularly for younger women, adjustment to the illness and the needed treatment appeared to depend on the good functioning of the marital relationship, and for the menopausal patients on a more extended network of emotional support.

Another study looking at intermediate adjustment examined women on average twenty-six weeks since surgery (Pistrang and Barker, 1992). These women were found to be most concerned about the uncertainty of the recurrence of cancer, and the effect of the illness on people close to them. This study also examined communication concerns, finding that communication with partners was more problematic than with relatives and friends.

A study of 359 women reported that psychological morbidity was linked to type of adjustment to cancer, such that emotional control, fatalism,
helplessness, and psychological morbidity were linked (Watson et al, 1991).

2.7 Surgical Intervention Modes Versus Patient's Choice:

(i) Factors Affecting The Decision - Removal Or Preservation:

One study found that the most important psychological factors affecting a woman's choice were the degree of anticipatory concern over adverse effects on her body image, disfigurement, and whether or not it would represent an insult to her sense of femininity (Margolis et al, 1989). This study also found 55% of mastectomy patients would now choose a lumpectomy, primarily to avoid physician's advice. It appeared that these women were much more likely to have had a history of psychological trauma in their lives than the women in the other groups.

(ii) Consequences Of Being Offered Choice In Surgery:

One study found limited support for the idea that patients who had complete choice of their surgical procedure would fair better than patients whose choice was constrained by the size and position of the tumor. Another older study found that patients offered a choice of surgery adjusted more readily to the chance experience, the ability to make a choice appearing more relevant than the type of operation performed (Morris and Ingham, 1988).

(iii) Response To Mastectomy:

One prospective study found 26% of women had psychiatric symptoms twelve months after operation which justified a Research Diagnostic Criteria diagnosis, however, most of the cases were mild. Only 5% of women were regarded as being psychiatrically ill. The major area of morbidity was in the
deterioration of the sexual relationship following surgery (Dean, 1987). Women who were clinical cases pre-operatively were significantly more likely to have sexual problems twelve months after operation. The patient's psychiatric state pre-operatively was also a predictor of psychiatric outcome twelve months after operation. Another large study reported that healthy women without prior psychiatric disorder or concurrent physical illness experienced some post-surgical distress, primarily in psychosocial functioning at twelve months, but severe psychopathological symptoms were conspicuously absent (Bloom et al, 1987).

De Leo et al (1991) identified the presence of suicidal urge; Kirkcaldy and Kobylnska (1987) the presence of clinical depression; and Zemore et al (1989) noted the presence of high negativism in the mastectomy group than in two control groups.

Chinese women who had undergone a mastectomy on average 6.9 years earlier, depression was found in 47% of the breast cancer patients and 61% of the control group, and fears arising from a diagnosis of malignancy (with its implications of incurability) recurrence of disease and premature death - appeared to be more important concerns than loss of femininity and physical disfigurement (Alagaratnum and Kung, 1986).

2.8 Impact Of Mastectomy And Breast Conserving Surgery On The Mind Of Patients:

Pre-treatment Group:

With self-choiced treatment groups, Pozo et al (1992) observed that prospective lumpectomy patients had a higher quality of sex life than mastectomy patients, at six to twelve months follow-up, while indicating no significant
differences in their sense of well-being. By comparing the mentality of a group of self-choiced treatment breast cancer patients, at the pre- and post-operative stages (eight weeks' after) Hughes (1993) observed "no relationship between types of breast cancer surgery and the patient's uncertainty, quality of life, and functional status".

Regarding emergence of 'psychological morbidity' in the levels of depression, the types of surgical treatment played no special role when the patients reached climacteric state (Goldberg et al, 1992; Rijken et al, 1995). The findings suggested to enquire further whether the patients have high state anxiety and low trait anxiety - since the date of diagnosis upto the first month after surgical treatment and in subsequent follow-up sequences.

Briefly, the reported research reports have not yet shown any unanimous agreement in their inferences on the basis of pre-operative assessment. The supporters of 'no overall significant difference' in the level of psychosocial distress and other mental symptoms between mastectomy and conservative groups were Maunsell (1989); Wolberg et al (1989); and Hoskins et al (1996). Whereas, McArdle et al (1990) inferred that "Mastectomy group scored significantly higher than the lumpectomy group on the severe depression subscale of the General Health Questionnaire".

Post-treatment Assessment Of No Self-choice Treatment Group:

In regard to mastectomy group, Margolis et al (1989) noted the presence of a marked inferiority complex while of a strong craving for BCT and of a plea for diminished passion (Margolis et al, 1989); while a defensive virility was found present in the Breast Cancer cases studied by Cawley et al (1990).
Researchers' popular assumption in favour of regeneration of positive attitude towards self and of a superiority feeling as the after-effect of breast reconstruction after mastectomy was found 'not tenable' by Rowland et al (1993). An unexpected result, following reconstruction, was a decreased sense of health and self-conscious mentality — as a failure to overcome the agony caused by a social stigma for becoming once a cancer-victim (Schover et al, 1995).

The psychic trauma caused by the loss of breast could remain present in a mastectomised woman, after reconstruction, and that gets aggravated under the influence of a fresh crisis in her social life caused by widowhood, divorce, or psychological loneliness of a 'spinner' (Gilboa et al, 1990). In case of delayed reconstruction also similar mental conditions might arise (Franchelli et al, 1995).

Patients, who underwent delayed reconstruction, had higher sources of psychic stress (Franchelli, ibid).

2.9 Impact Of Non-Surgical Treatment On The Patient's Mind:

(i) To confirm 'depressiveness' in the breast cancer patient following Radiotherapy has not yet been confirmed by the researchers (Hughson, 1987). Maraste et al (1992), in this regard, observed the role of post-menopausal life — women aged 50-59 years revealed a significant association between post-mastectomy phase and morbidi anxiety scores.

(ii) Patients almost unanimously considered pre-operative chemotherapy burdensome because of alopecia (ibid). Whereas, "women randomised to no chemotherapy displayed higher anxiety scores than those receiving chemotherapy" in a different study done by Cassileth et al (1986) — of course, without statistically high significance.
The predominant role of the patient's psychic constitution to have trait anxiety had been admitted by Jacobsen et al (1993). His sample revealed the presence of intense anxiety in younger patients before the first infusion of therapeutic dose. Manne et al (1994) drew attention of a significant relationship between 'physical symptoms' and 'all negative effects' — but not to any positive effects. In an early research report, the said effects were admitted in the forms of "decreased mobility, nausea and fatigue", along with 'lack of concentration and depressed mood' (Knobf, 1986). Similarly, the presence of 'severe anxiety' and 'severe depression' were found present in a small number of patients in the study-sample of Campora et al (1992) — composed of different varieties of cancer patients and of whom 50% contemplated quitting chemotherapy.

Chemotherapy at home was found more compatible with better quality of life — particularly for elder patients (Nerenz et al, 1986). In a later observation, the researcher did not find any difference in the activity level (in and outside the home), and anxiety and depression symptoms between Radiotherapy and Chemotherapy patient groups (Berglund, 1991).

Chemotherapy, preceded by partial mastectomy and breast reconstruction, was found to generate more sexual dysfunction, poorer body image, and more psychological distress — recorded average 4.1 years following the surgery (Schover et al, 1995). At the near completion stage of a course of adjuvant chemotherapy about one-third of the patients felt that a safety net had been lost and their level of depression was intensified (then it was at the outset). They tended to view "their illness as chronic rather than acute, and had more
side-effects during the last cycle of chemotherapy" (Ward et al, 1992). Here, also, the influent role of a psychic constitutional factor remained implicit.

2.10 Mode Of Adjustment And Coping Dynamics In Overcoming Carcinogenic Stress:

By surveying the published research reports in available Scientific literature a trend-analysis picture has been developed and displayed below in a tabular form:

<table>
<thead>
<tr>
<th>ADJUSTMENT IN THE LONGER TERM SURVIVAL EFFORT</th>
<th>COPING DYNAMICS OF THE DIAGNOSED CASES OF BREAST CANCER</th>
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<tr>
<td><strong>A. Measures taken pre-diagnosis and twelve months later by Depressivity Scale of two groups (Neuhaus et al, 1994).</strong></td>
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<tr>
<td>(a) Diagnosed cases of breast cancer revealed no change in test scores.</td>
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<td>(b) Diagnosed benign breast diseases revealed a decrease in test scores.</td>
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<td>(c) Breast cancer cases expressed diminished enjoyment of life, exacerbated concern over health, and fatalistic attitude.</td>
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<td>2. One year after surgery reported high levels of functioning and quality of life and a few with psychotic history revealed lower levels of quality of life.</td>
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| B. Adjustment in the first three years: |
| In a longitudinal study for three years, following diagnosis (along with... Contd....) |

| B. Styles of coping within one year: |
| "Acceptance and use of humour predicted lower distress with denial and disengagement predicting high distress" (Carver et al, 1993 and 1994). |
| 2. Pessimistic attitude, hopelessness and helplessness attitudes and lower internal locus of control (Burges et al, 1988). |
| 3. Successful copers sought and unsuccessful copers avoided seeking information (Orr, 1986). |

| B. Loveys and Klaich (1991), and Ell (1989) and their respective collaborators recorded the patients' gradual failure to cope with carcinogenic stress. |
| Contd..... |
B. Contd.

A 3-year sequence) the challenging attitudes of the patients gradually diminished till a defensive attitude of rationalisation appeared (Helm, 1987) and under Loveys and Klaich's study (1991) the sample group was found with high doubt and low self-confidence on the benefits of treatment. Besides, Ell et al (1989) observed, in their sample of mixed cancer population, a gradual decline of mental health over time - low work motivation or high impairment in work capability.

C. In studying adjustment of breast cancer cases during five years or more duration, Polinsky (1994) observed the presence of high apprehensiveness (disease may recur or check-up reports will be unfavourable) and negative feelings about body image. The observations were not contradicted by Ferrans (1994) and Carter (1993). But Ellman and Thomas (1995) found (2-13 yrs post-diagnosis) women without any increase of depression, as long-term survivors of breast cancer (apparently free of disease). Possibly, these patients had normal level of trait anxiety and acquired higher state-anxiety - which disappeared keeping pace with disappearance of carcinogenic complications.

C. In reviewing the nature of post-adjustment consequences reported by Polinsky (1994), Ferrans (1994), Ellman and Carter (1993), Cordova (1995) and Dunkel-Schetter (1992) it may be inferred that there lies no special effect of carcinoma over psychogenic stress. The patients psychogenic trouble, here, follow a normal trend that may generate in his/her mind to fight against a disease, not yet conquered by science. Of course, the degree and duration of mental problems vary according to mental constitution of the patients.

The findings have justified also the presence of a psychologist at the Cancer Clinics where the expert team functions for
### ADJUSTMENT IN THE LONGER TERM SURVIVAL EFFORT

C. Contd.

Cordova et al (1995) in their research report claimed that "5-10% of their sample were considered likely to meet diagnostic criteria for post-traumatic stress disorder" - by examining women at 6 to 60 months post-diagnosis. In a mixed cancer population Dunkel-Schetter et al (1992) observed marked fear of future uncertainties in 41% of total sample size.

### COPING DYNAMICS OF THE DIAGNOSED CASES OF BREAST CANCER

C. Contd.

C. Contd. diagnosis. To quote Meyer and Aspegren (1989) : "The study reported that the psychological atmosphere when the patient is given the diagnosis may determine the disturbance at five year follow-up." The study has noted that 68% of the women complained about how they had been informed of the diagnosis.

Science has not yet so conquered the morbidity in a malign growth as it has done in the morbidity of Koch's infection.

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**Further References:**


