Clinical Report

Mental Condition and Treatment of Patients after Disclosure of Cancer Diagnosis

Kentaro Nakao, Akira Tsunoda, Tomotake Ariyoshi,
Nobuaki Matsui, Tetsuhiro Goto, Gaku Kigawa,
Masahiro Hayashi, Hiroyuki Nagayama and Toshihiro Takaba

Abstract : In Japan, historically, doctors had refrained from disclosing a cancer diagnosis to patients, but attitudes regarding disclosure have recently been changing. We investigated the mental condition and treatment of patients after disclosure of cancer. Thirty-seven cancer patients (7 gastric cancer, 23 colorectal cancer, 5 breast cancer, 2 hepatocellular carcinoma) participated in this study. We divided the patients at Week 1 after disclosure of the diagnosis of cancer into two groups according to their score of Hospital Anxiety and Depression Scale (HADS): one group whose HADS was 8 points or more (Group A), and another group whose points were below 8 (Group B) at Week 1 after disclosure. There were 11 (29.7%) patients in Group A, and 26 (70.3%) in Group B. The average HADS differed between the two groups before disclosure, and at Weeks 1 to 5 after disclosure. Group A was treated with paroxetine hydrochloride hydrate (PAX) and about 70% of the patients showed an improvement of anxiety or depression by Week 5. While, there was 0% in HADS of 8 or more in breast cancer patients after disclosure. Some patients felt anxiety and depression unrelated to the stage of cancer. Furthermore, we noted that anxiety and depression were not detected after the cancer disclosure in any of the breast cancer patients, suggesting the possibility that anxiety and depression were alleviated by events such as surgery. It is necessary for medical treatment to advance to new steps in the treatment of cancer, providing enough support to the patients in the future.

Key words : disclosure of cancer diagnosis, hospital anxiety and depression scale (HADS), paroxetine hydrochloride hydrate (PAX)

Introduction

   In Japan, historically, doctors had refrained from disclosing a cancer diagnosis to patients. Nevertheless, this gradually began changing in the early 1990's due mainly to the growing importance of informed consent. Apart from the expected and normal emotional impact, learning about their diagnosis has allowed patients to participate in decision-making concern-

Department of Surgery, Yamanashi Red Cross Hospital

ing their treatment. Doctors, on the other hand, have to keep in mind the psychological conditions of their patients after disclosing the diagnosis and have to express their sincere empathy to establish a caring physician-patient relationship[1, 2]. Showing sympathy and providing appropriate counseling have helped patients to reduce their distress and facilitate psychological adjustment.

Materials and Methods

In this study, the patient's medical condition and timing for disclosure was revealed to his/her family and then to the patient. Therefore, we told the patient about their cancer while they were accompanied by their family. We described the whole procedure of total resection of the tumor to patients in stages I, II, III (cancer without distant metastases) and added an explanation regarding chemotherapy in the case of patients with stage IV cancer (cancer with distant metastases).

Thirty-seven cancer patients (7 with gastric cancer, 23 with colorectal cancer, 5 with breast cancer, and 2 with hepatocellular carcinoma), who were operated on at Yamanashi Red Cross Hospital from September 2005 to August 2007, were informed of their state of cancer. The patients with breast cancer were told the diagnosis and were informed about the surgical procedure before the operation, and others were told the diagnosis after surgery (Table 1).

We evaluated the level of anxiety and depression of the patients using the Hospital Anxiety and Depression Scale (HADS)[3]. HADS includes the points of anxiousness [HADS (A)] and those of depression [HADS (D)]. This scale is useful to evaluate symptoms such as dejection or uneasiness by asking patients to answer 14 questions (dejection-related 7 questions, uneasiness-related 7 questions)[4, 5]. If the points of HADS had were elevated, we would diagnose that degree of anxious/ depression was worsened. Generally, the HADS (D) points for dejection state was over nine points, or over 13 points in the case of HADS (A) plus HADS (D) was defined as anxious/ depression state. HADS was used once before the disclosure of the cancer diagnosis, and 5 times (Weeks 1, 3, 5, 7, 9) after diagnosis. We divided the patients at Week 1 after disclosure into two groups : one group of patients whose HADS [HADS (A) or HADS (D)] points were 8 points or more (Group A), and another group whose points were below 8 (Group B).

We prescribed paroxetine hydrochloride hydrate (PAX) to the patients in Group A. Significant differences between the two groups were assessed using the Mann-Whitney's U test. The level of statistical significance was set at $p < 0.05$.

Results

There were 11 (29.7%) patients in Group A, and 26 (70.3%) in Group B (Table 1).
1. Comparison of Group A with Group B
1) Background
The average age of Group A was 67.7 years old, and that of Group B was 66.2 years

Table 1. Clinical Data and groups.

No.	Age	Gender	Cancer	stage		
1	71	M	HCC	II		Effective Group
2	78	M	Gastric Ca	IA		
3	52	F	Cecum Ca	0		
4	71	M	S/C Ca	I		
5	80	M	S/C Ca	II		
6	64	M	Rectum Ca	IIIa	group A	
7	73	F	Rectum Ca	IIIa		
8	67	F	A/C Ca	IIIb		
9	68	F	Gastric Ca	IA		Ineffective Group
10	64	M	Cecum Ca	0		
11	57	F	A/C Ca			
1	77	M	HCC	III		
2	58	M	Gastric Ca	IV		
3	57	M	Gastric Ca	IA		
4	52	M	Gastric Ca	IA		
5	80	F	Gastric Ca	IIIa		
6	90	M	Gastric Ca	IIIA		
7	89	M	Rectum Ca	0		
8	42	F	S/C Ca	0		
9	65	M	S/C Ca	0		
10	69	M	Rectum Ca	I		
11	68	M	S/C Ca	I		
12	73	M	Rectum Ca	II		
13	52	M	D/C Ca	II	Group B	
14	75	M	Rectum Ca	II		
15	72	M	Rectum Ca	II		
16	79	M	S/C Ca	IIIa		
17	72	M	D/C Ca	IIIa		
18	71	F	S/C Ca	IIIa		
19	49	F	S/C Ca	IIIa		
20	73	M	S/C Ca	IIIa		
21	66	F	Cecum Ca	IV		
22	46	F	Breast Ca	IIA		
23	80	F	Breast Ca	IIIA		
24	60	F	Breast Ca	IIA		
25	37	F	Breast Ca	IIB		
26	71	F	Breast Ca	IIA		

M : Male, F : Female, HCC : hepatocellular carcinoma, Cecum Ca : cecum cancer, A/C Ca : ascending colon cancer, D/C Ca : descending colon cancer, S/C Ca : sigmoid colon cancer, Rectum Ca : rectum cancer, Gastric Ca : gastric cancer, Breast Ca : breast cancer

The patients with breast cancer were told the diagnosis and were informed about the surgical procedure before the operation, and others were told the diagnosis after surgery.
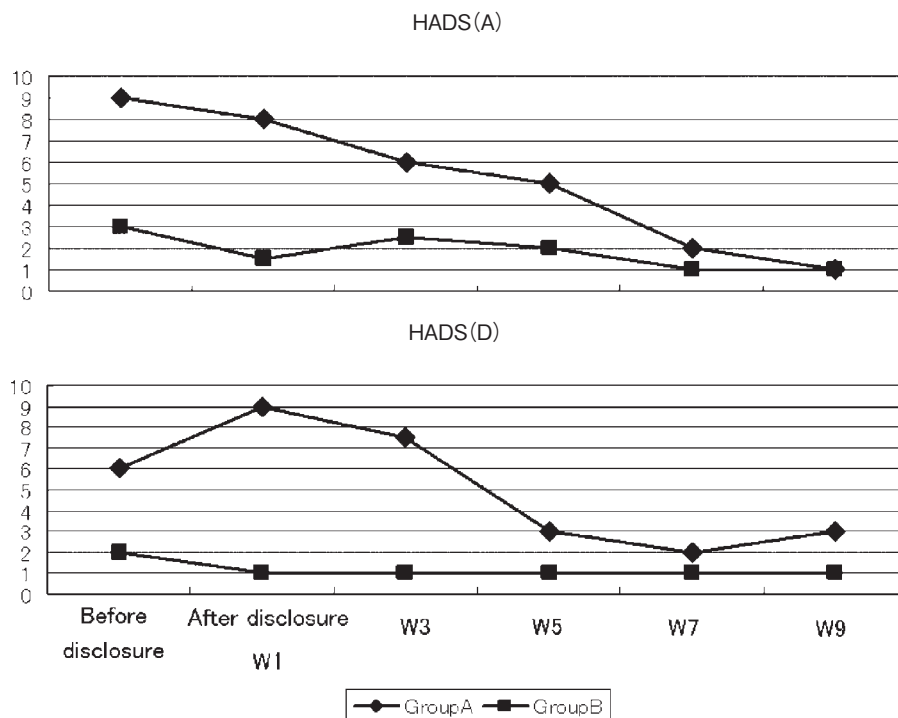
HADS（A）

HADS（D）

Fig. 1. Comparison of Group A with Group B
Group A : Cases with HADS ［HADS（A）or HADS（D）］ points of 8 points or more. Group B : Cases with HADS ［HADS（A）or HADS（D）］ points of below 8 points. There were differences between both groups before disclosure of the diagnosis of cancer, and at Weeks 3 and 5 after disclosure. There was no difference in the average points of HADS at Weeks 7 and 9.

old, showing no significant difference between the two groups. The male to female ratio was 7 : 4 in Group A, and 16 : 10 in Group B. There was no statistical difference between the two groups regarding these items.

2）Median Score of HADS

The median points of HADS in Group A and Group B are shown in Table 1 and Fig. 1. There were differences between both groups before disclosure of the diagnosis of cancer, and at Weeks 3 and 5 after disclosure. There was no difference in the average points of HADS at Weeks 7 and 9.

There was no difference between points of HADS（A）and that of HADS（D）before disclosure in Group A ［HADS（A）: 5 cases, HADS（D）: 6 cases］. Before disclosure, the points of HADS in Group A was significantly higher than that in Group B.

On the other hand, there the low points of HADS were maintained throughout Weeks 3, 5, 7, 9 in Group B.

We examined whether HADS（A）and HADS（D）influenced HADS in Group A and B. But there was no statistical difference between the influence of HADS（A）and that of HADS（D）.

Table 2. Ratio of patients treated with PAX after disclosure of the diagnosis of colorectal, gastric, and breast cancers. About 30% of patients in colorectal and gastric cancer needed medication. But the patients of breast cancer did not need to treatment.

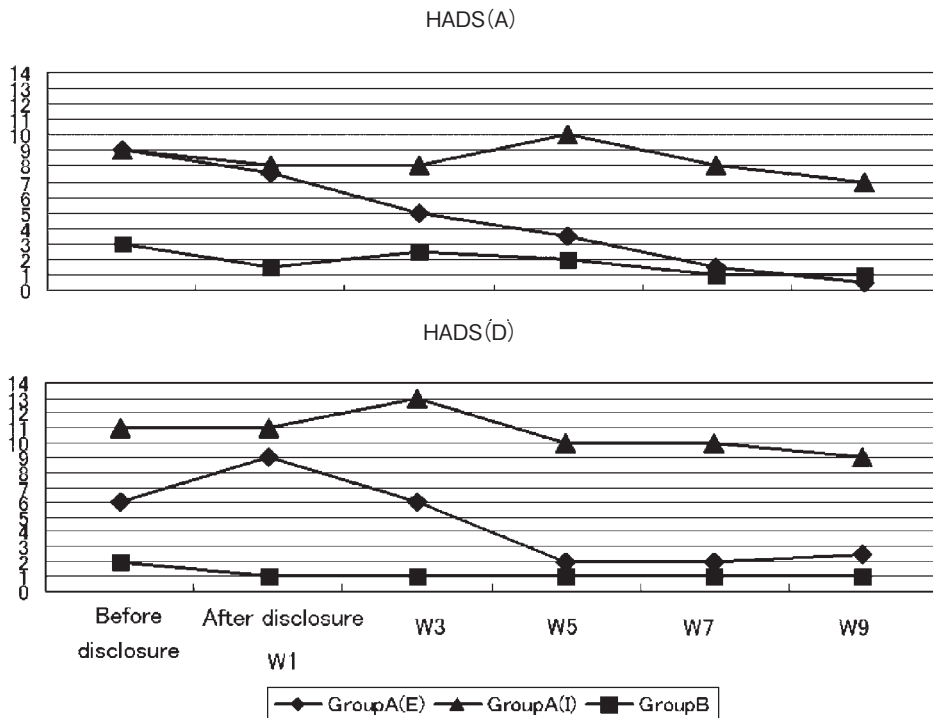|	Group A vs. Group B		Raito of Treatment
Colorectal Cancer	8	15	34.7%
Gastric Cancer	2	5	28.6%
Breast Cancer	0	5	0.0%

HADS(A)

HADS(D)

Fig. 2. Comparison of the Effective Subgroup [Group A(E)] with the Ineffective Subgroup of Group A [Group A(I)] Group B: Cases with HADS [HADS(A) or HADS(D)] points of below 8. Eight (72.7%) of the 11 patients in the Group A(E) showed an improvement of anxiety or depression by Week 5.

3) Ratio of patients that received treatment after disclosure of the diagnosis of colorectal, gastric, and breast cancers.

There were many cases with these types of cancers. The ratio of patients with a HADS of 8 or more in each cancer (Table 2) was 34.7% of patients with colorectal cancer, 28.6% of those with gastric cancer, and 0% of patients with breast cancer.

2. Investigation in Group A subdivided into an effective subgroup and an ineffective subgroup by their response to PAX

1) Effective Group〔Group A（E）〕vs. Ineffective Group〔Group A（I）〕

The effective subgroup〔Group A（E）〕included patients who scored 8 points or more in HADS, had taken PAX since Week 1 after disclosure and then showed an improvement of anxiety and depression（HADS points below 8）by Week 9 after disclosure. Ineffective cases was defined as the ineffective subgroup〔Group A（I）〕. Eight（72.7%）of the 11 patients in Group A showed an improvement of anxiety or depression by Week 5（Fig. 2）. When median score of HADS points was compared with Group A（E）and Group A （I）, there was a difference between the two groups by Week 3, but it was not statistically significant.

As for the three patients in Group A（I）, one had gastric cancer（stage I）, another had cecum cancer（stage 0）, and the other had ascending colonic cancer（stage IV）（Table 1）. The woman with gastric cancer（stage I）suffered from loss of appetite after the operation. The patient with early cecum cancer worried about treatment for prostate cancer emerging after ileocecectomy. And the one with ascending colonic cancer and liver metastasis（stage IV）was depressed because chemotherapy was not effective, and she had developed icterus （Table 1）.

The ratio of success of therapy with PAX was independent of the cancer stage, suggesting that it was hard to obtain a response succeed when there was a negative physical factor present.

Discussion

In recent years, as the possibilities of treatment for cancer have increased, not only tumor resection, but also neoadjuvant chemotherapy, adjuvant chemotherapy and radiotherapy are performed for patients. Some patients suffer severe adverse effects of these therapies, and thus it has become necessary to disclose the diagnosis to them. Consequently, clinical doctors must consider the mental care of patients after disclosure. Massie and Holland proposed three phases of mental state in the patients[6]. The initial period after disclosure, which usually lasts a few days, is characterized by disbelief or denial. At first, the patients are shocked, become dizzy, and show denial and despair. Phase 2, which usually lasts 1−2 weeks after phase 1, is characterized by dystopia, for example anxiety, anorexia, insomnia and poor concentration. Phase 3 begins after Week 2, when patients start accepting the reality of their diagnosis. The morbidity rate of depression after disclosure of a cancer diag-nosis is 10−20% for all cancer stages, and the rate of anxiety and depression is considered to be 30−40%[7].

In this study, psychic uneasiness / dejection after disclosure of a cancer diagnosis was observed in 11（29.7%）of the 37 patients, and accounted for 34.4% of the 32 patients who were informed the diagnosis after the operation. The cause of uneasiness was unknown, but there was no difference associated with the stage of cancer. Moreover, it will be neces-sary for specific the investigation of the uneasiness / dejection after disclosure of cancer

was performed for each organ. In addition, the improvement of uneasiness / dejection with PAX became clear under the presence of a negative physical element.

In addition, HADS points did not worsen in any breast cancer patient whose diagnosis was disclosed to them before the operation. In these patients, an event such as the operation moderated the mental pain of the patient, and it seemed that, as a result, the points of HADS were low. It seems necessary to examine this aspect in relation to cancer affecting other internal organs in the future.

The patients whose HADS points increased after the disclosure already had a high point in HADS before the disclosure. In other words, such a patient originally had a risk factor for anxiety and depression. In addition, the effect of PAX was observed in about 1 month, because there was no difference in the HADS points between Group A and Group B at Weeks 7 and 9. Furthermore, we examined whether anxiety or depression influenced the HADS after disclosure. Depression tended to affect the mental condition of the patient at Weeks 3 and 5[7-9].

We noted that anxiety and depression after the disclosure was not detected in any of the breast cancer patients in Group B. Therefore, the possibility that anxiety and depression were alleviated, at least in part, by events such as surgery was suggested.

It is necessary for medical treatment to advance to new steps in the treatment of cancer, providing enough support to the patients in the future.

References

1) Elwyn TS, Fetters MD, Gorenflo W and Tsuda T : Cancer disclosure in Japan : historical comparisons, current practices. *Soc Sci Med* **46** : 1151−1163 (1998)
2) Elwyn TS, Fetters MD, Sasaki H and Tsuda T : Responsibility and cancer disclosure in Japan. *Soc Sci Med* **54** : 281−293 (2002)
3) Zigmond AS and Snaith RP : The hospital anxiety and depression scale. *Acta Psychiatr Scand* **67** : 361−370 (1983)
4) Grassi L, Indelli M, Marzola M, Maestri A, Santini A, Piva E and Boccalon M : Depressive symptoms and quality of life in home-care-assisted cancer patients. *J Pain Symptom Manage* **12** : 300−307 (1996)
5) Aass N, Fossa SD, Dahl AA and Moe TJ : Prevalence of anxiety and depression in cancer patients seen at the Norwegian Radium Hospital. *Eur J Cancer* **33** : 1597−1604 (1997)
6) Massie MJ and Holland JC : Overview of normal reactions and prevalence of psychiatric disorders. In : Handbook of Psychooncology ; psychological care of the patient with cancer, Holland JC and Rowland JH (Eds), Oxford Univ Press, New York, pp 273−282 (1989)
7) Derogatis LR, Morrow GR, Fetting J, Penman D, Piasetsky S, Schmale AM, Henrichs M and Carnicke CL Jr : The prevalence of psychiatric disorders among cancer patients. *JAMA* **249** : 751−757 (1983)
8) Tsunoda A, Matsui N, Watanabe M, Nakao K and Kusano M : Early -postoperative quality-of-life predictors of patients with colorectal cancer. *J Jpn Coll Surg* **34** : 9−16 (2009) (in Japanese)
9) Skarstein J, Aass N, Fosså SD, Skovlund E and Dahl AA : Anxiety and depression in cancer patients : relation between the Hospital Anxiety and Depression Scale and the European Organization for Research and Treatment of Cancer Core Quality of Life Questionnaire. *J Psychosom Res* **49** : 27−34 (2000)