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〈*Original*〉

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ABSTRACT

Among a group of patients (n=65), the majority of whom had been introduced to us by eating-disorder specialists elsewhere because of difficulties in their treatment, we defined a subgroup (n=39) characterized by eating disorders and multiple behavioral problems. In addition to the disordered eating behavior, problematical behavior relating to the use of alcohol and other substances, shoplifting, promiscuity, and suicidal tendencies were seen in 74%, 36%, 33%, and 15% of the patients, respectively. Further, this subgroup showed an extremely worse outcome, when compared with the subgroup of patients with pure eating disorders (n =26). With regard to the intrafamilial traits examined among the first- and second-degree relatives, 49% of the patients had the trait for alcohol dependence, 28% had the trait for problematical behaviors. The physically or socially self-destructive types of behavior, which seemed to be attributable to vigorous and uncontrollable intrinsic impulses of the patients, tended to emerge in the respective patients in revolving or alternating manners. Therefore, enduring efforts should be taken to support the personality development of such patients rather than to struggle with respective problematical behaviors, which may be considered merely as facets of a single disorder.

INTRODUCTION

Since the late 1970's, the number of patients diagnosed as having eating disorders such as anorexia nervosa and bulimia nervosa has been increasing in Japan just as it had almost 10 years earlier in European countries and in the United States of America (SUEMATSU, 1993 ; HERZOG et al., 1988). In a nationwide survey performed in Japan in 1993, as many as 22 subjects per 100000 of the female population between 10 and 29 years of age, inclusively, were estimated to consult doctors in hospitals due to some eating disorder (INABA et al., 1996), although the number still remained much lower when compared with those estimated for the above-mentioned countries. At the same time, subgroups of eating-disorder patients have been recognized especially during the last one to two decades (BOSKIND-LODAHL and WHITE, 1978 ; RUSSELL, 1979 ; LACEY and MOURELI, 1986), and eating disorders are now believed to be more heterogeneous than previously thought.

Russell (1979) initially described bulimia nervosa as an ominous variant of anorexia nervosa. Thereafter, researchers have often associated bulimia nervosa with alcoholism and drug abuse, confirming the worse prognosis of the disease than that of anorexia nervosa or of

pure alcoholism (e. g., BRISMAN and SIEGEL, 1984 ; SAITO, 1984 ; COLLINS et al., 1985 ; JONES et al., 1985 ; BULIK, 1987 ; BERESFORD and HALL, 1989 ; GOLDBLOOM et al., 1992). In parallel, it was also noticed (ANDERSEN, 1984 ; LACEY, 1985) that there were bulimic patients who had multiple problems caused by their impulsive behaviors. Similar clinical impression was given by a subgroup of patients referred to as 'bulimic alcoholics' who presented with problematical drinking and eating behaviors leading to a poorer response to treatment than non-bulimic alcoholics (LACEY and MOURELI, 1986). More recently, EVANS and LACEY (1992) defined an important subgroup among those women attending an alcoholic-treatment unit and described it as a subgroup of 'multi-impulsive' patients. Those patients showed alcoholism and other problems such as drug abuse, loss of control of eating behavior, self-harmful behaviors, impulsive physical violence, and promiscuity.

Our clinical team for patients of eating disorders has long been involved in the treatment of patients with eating disorders who were introduced to us, because of the difficulties of the treatment due to problematical behaviors, by specialists of eating disorders working in the departments of pediatrics, internal medicine, and psychiatry of university and college hospitals, doctors of clinics specializing in psychosomatic or psychiatric disorders, and staffs of public mental-health divisions. Alcoholism and / or other substance-related disorders, promiscuity, sexual and gender identity disorders, kleptomania, self-harmful behaviors, suicidal tendency, and so forth were evidenced in these patients in addition to eating disorders.

In this study, we defined among a subtype of as eating disorders displaying a variety of problematical behaviors designated it as eating disorders with multiple problematical behaviors (EDMUL). The symptomatological characteristics, clinical course, outcome, and intrafamilial traits for EDMUL are depicted in comparison with those for pure eating disorders (PED).

SUBJECTS and METHODS

This study does not represent eating disorder in general, but it delineates a specific subtype of eating disorders, named EDMUL. The characteristics of EDMUL are depicted in comparison with those of PED.

Subjects of this study were 65 female patients diagnosed as having any type of eating disorder and followed up for at least 1 year. They were inpatients and outpatients of Osaka Medical College Hospital, Ranryoen and Shin-Abuyama Psychiatric Hospitals, and their affiliated clinics between January 1990 and December 1995. These subjects were divided into 2 groups : one for the patients in whom eating disorder was the sole problem for clinical concern and the other for the patients showing not only eating disorders but also behavioral problems including dependence on and abuse of alcohol and other substances, kleptomania, self-harmful behaviors, suicide, and so forth.

Many of these subjects had been introduced to our clinical team by eating-disorder specialists working in the departments of pediatrics, internal medicine, and psychiatry of university and college hospitals located in Osaka, Kyoto, Nagoya, Tokyo, and other cities ; doctors of clinics specializing in psycho-somatic or psychiatric disorders ; and staffs of public mental-health divisions, because the treatment and care of these patients had not been successful in those departments or clinics or divisions due to the problematical behaviors of the patients. Thus, it should be emphasized that, in itself, the group of subjects in this study possessed extreme deviations due to such exceptional cases.

The number of subjects of EDMUL was 39 (29 inpatients and 10 outpatients). The number of PED was 26 including 10 inpatients and 16 outpatients. Patients who were diagnosed as having primary disorders in their thyroid glands such as hyperthyroidism, hypothyroidism, and Hashimoto disease, a patient who was diagnosed as having Turner's syndrome, a patient with whom eating disorders emerged in the course of ,treatment of seizures after intracranial hemorrhage, and a patient who showed double personality were excluded from this study.

Details of the eating disorders, alcoholism, and behavioral problems of the subjects and data on their families were obtained directly from the patients themselves and their family members during intensive psychotherapy, group psychotherapy, and family therapy, and in the course of follow-up. Information of the

problematical behaviors of the patients were occasionally provided from the police, store clerks, members of emergency hospitals, and so forth.

The study on intrafamilial traits was performed within the first-degree relatives (parents and siblings) and the second-degree relatives (grandparents, aunts, and uncles) of the subjects. Traits not only of psychotic disorders such as schizophrenia and mood disorders, but also of eating disorders, alcoholism, and other problematical behaviors were examined.

The diagnoses were made according to Diagnostic and Statistical Manual for Mental Disorders, the fourth edition (DSM-Ⅳ). All the subjects were followed up for 2.0 (1.2 years (mean±S. D.) in person by K. A. and others. Proportions of the subjects between EDMUL and PED groups were compared by use of χ^2 tests.

RESULTS

Table 1 Profiles of the subjects with EDMUL and PED

	EDMUL (n=39)	PED (n=26)
age at interview	26.8±6.8	23.4±4.2
age at onset of illness	19.5±3.6	20.1±3.1
duration of illness (years)	7.3±5.4	3.3±3.3
education after graduation from high school	51.3% (20/39)	73.1% (19/26)
marriage, divorce	35.9% (14/39) 57.1% (8/14)	15.4% (4/26) 25.0% (1/ 4)

EDMUL : eating disorder with multiple problematical behaviors, PED : pure eating disorder

Table 2 Subtypes of eating disorders according to DSM-Ⅳ

	EDMUL (n=39)		PED (n=26)	
	n	(% of subjects)	n	(% of subjects)
anorexia nervosa	6	(15.4)	2	(7.7)
restricting type	1	(2.6)	2	(7.7)
binge-eating / purging type	5	(12.8)	0	(0)
bulimia nervosa	31	(79.5)	21	(80.8)
purging type	24	(61.5)	13	(50.0)
nonpurging type	7	(17.9)	8	(30.8)
eating disorder not otherwise specified	2	(5.1)	3	(11.5)

EDMUL : eating disorder with multiple problematical behaviors PED : pure eating disorder

The profiles of the subjects of EDMUL and PED groups are depicted in **Table 1**. The age at onset appeared to be similar between the two groups, but the duration of illness was longer for EDMUL than for PED. A fewer number of EDMUL subjects continued to be educated after graduation from high school. A larger number of EDMUL subjects had married ; but among those, more than half had become divorced by the time of this study.

The eating disorders seen in EDMUL and PED subjects were subclassified according to DSM-Ⅳ (**Table 2**). Approximately 80% of both EDMUL and PED subjects were diagnosed as having bulimia nervosa. In EDMUL, purging pattern was seen in 5 of 6 subjects with anorexia nervosa and 24 of 31 subjects with bulimia nervosa ; thus 29 out of 39 EDMUL subjects (74%) presented purging behavior. This ratio was significantly higher (χ^2=4.05 ; $P<0.05$) when compared with the corresponding ratio for PED (50%). Among the 39 EDMUL subjects, in 30, disordered eating behaviors appeared earlier than other behavioral problems ; in 6, they appeared almost at the same time as other problems did ; and in 3, they appeared following other behavioral problems.

Table 3 Behavioral problems seen in the 39 EDMUL subjects

Behavioral problems	n	(% of subjects)
problems relating to alcohol and/or other substance disorders	29	(74.4)
alcohol only	15	(38.5)
other substances	7	(17.9)
alcohol plus other substances	7	(17.9)
shoplifting	14	(35.9)
promiscuity	13	(33.3)
suicidal tendencies	6	(15.4)
self-mutilation	2	(5.1)
problems relating to sexual and gender identity disorders	2	(5.1)
gambling	1	(2.6)
other behavioral problems	3	(7.7)

Besides disordered eating behavior, all EDMUL subjects evidenced at least one additional pathological behavior(s) (**Table 3**), and even 2 or more additions were seen in each of 23 EDMUL subjects (59%). Alcohol dependence, abuse of alcohol, Ritalin

(methylphenidate), Tryptanol (amitriptyline), Anafranil (clomipramine), Hirnamin (levomepromazine), Eurodin (estazolam), Benzalin (nitrazepam) and so forth, and other problematical behaviors such as promiscuity, shoplifting, wrist-cutting and cutting of the skin of other areas of the upper and lower limbs of oneself, and even suicidal attempts were evidenced among the EDMUL subjects.

Alcohol-dependence syndrome was diagnosed in 18 of the 39 EDMUL subjects (46%). Interestingly, these subjects showed an extremely high rate of abstinence from alcohol during the observation period : 11 of the 18 alcohol-dependent subjects (61%) had totally abstained from alcohol for more than 1 year ; and 5 (28%), for more than 3 years. There were 3 alcohol abusers among the 39 EDMUL subjects (8%). One abstained from alcohol for more than 1 year but alternatively manifested frequent binge-eating/purging behavior. Another was in remission from all of the pathological behaviors including eating disorders after the treatment and could drink alcohol in a normal manner. The last one abstained from alcohol, but underwent the binge-eating/purging pattern and abused hypnotics, which led to death from suffocation in the bath.

Disordered eating behavior completely disappeared in 10 of the 39 EDMUL subjects (26%) and in 7 of the 26 PED subjects (27%) ; thus, the ratio was similar between the two groups. However, in 4 out of the 10 EDMUL subjects from whom disordered eating behavior had disappeared, other problematical behaviors such as shoplifting, promiscuity, abuse of alcohol and drugs, and suicidal attempts appeared thereafter. Total disappearance of all of the problematical behaviors including the ones of eating was observed in 6 subjects. Thus, when EDMUL is considered as a disease of multiple problematical behaviors rather than as a simple eating disorder, 6 of 39 EDMUL subjects (15%) reached complete remission. These 6 subjects were observed to behave normally for more than one and a half years during the period of this study. On the other hand, including the 4 subjects in whom their disordered eating behaviors had been replaced by different problematical behaviors, a total of 12 among the 39 EDMUL subjects (31%) presented revolving manifestation of problematical behaviors.

The outcome of EDMUL appeared to be extremely bad. Among the total subjects of this study, 6 deceased during the observation period, and they were all EDMUL subjects. Thus, 15% (6/39) of the EDMUL subjects died and another 70% remained for intensive treatment and care. The causes of death of the 6 subjects were malnutrition syndrome for 1, accidents for 3 (drowning, suffocation, and a sudden unknown cause), and suicide by jumping from tall buildings for 2 subjects. They died at the average age of 26.7±8.2 year (mean±S. D.).

Among the first- and second-degree relatives of the subjects, a significantly higher incidence of the trait for alcohol dependence ($\chi^2=8.04$, $P<0.01$) and that for problematical behaviors ($\chi^2=4.64$, $P<0.05$) were noted among the relatives of the EDMUL propositi than among those of PED propositi (**Table 4**). The incidence of the trait for suicide also seemed to be higher among the relatives of the EDMUL propositi than among those of PED propositi, but the difference between the two groups ($\chi^2=0.23$) was not statistically significant probably due to the small sample numbers.

Table 4 Intrafamilial traits for EDMUL and PED

	EDMUL (n=39)	PED (n=26)
major depressive disorder	3 (7.7%)	1 (3.8%)
anxiety disorder	1 (2.6%)	1 (3.8%)
alcohol dependence	19 (48.7%)**	3 (11.5%)
problematical behaviors	11[a] (28.2%)*	1[b] (3.8%)
suicide	4 (10.3%)	1 (3.8%)

Each numeral indicates the number of the EDMUL or PED subjects whose first- or second-degree relatives had the designated trait. [a]pathological gambling (n =3), promiscuity (3), abuse of organic volatile solvent (3), and physical abuse of child (3) ; [b]physical abuse of child (1). $*P<0.05$; $*P<0.01$ by χ^2 tests between EDMUL and PED groups. All the traits were found among the first-degree relatives except 1 trait for mojor depressive disorder, 2 traits for alcohol dependence, and 1 trait for problematical behaviors, which were found among the second-degree relatives of the EDMUL subjects.

DISCUSSION

The EDMUL subjects of this study evidenced a variety of problematical behaviors such as dependence on and abuse of alcohol and other substances, promiscuity, kleptoma-

nia, self-mutilation, and suicide in addition to wrecked eating behavior. Those EDMUL patients tended to be hyperactive, which seemed to make them further ruined so as to face finally with catastrophe. Thus, the outcome of EDMUL was generally worse than that of PED. EVANS and LACEY (1992) studied women attending an alcoholic-treatment unit and defined a subgroup of 'multi-impulsive' patients in whom multiple self-damaging behaviors were manifested. They emphasized the importance of recognizing the full range of the behaviors of such patients and dealing with those behaviors as one general issue of impulse control. Based on similarities of clinical findings, we infer that our EDMUL subgroup of eating disorders is probably the same as or overlapping with the subgroup of multi-impulsive patients of Evans and Lacey.

The majority of the EDMUL subjects had been introduced to our clinical team by specialists for eating disorders because of the difficulties of the treatment and care due to a variety of problematical behaviors. Because the outcome of the disease was extremely bad and 15% of the patients died though still so young (26.7 ± 8.2 year), these patients should be treated and cared for intensively in a specialized manner as early in their illness as possible. In this sense, it is quite important for clinicians to properly diagnose this type of disorder in an early stage of the disorder.

Although how to treat and care for the EDMUL patients remains to be further elucidated, it is important to note at this moment that the treatment and care should not be focused upon only their eating or drinking behavior conforming with the notion of Evans and Lacey. In 31% of the EDMUL subjects, different forms of problematical behaviors were confirmed to emerge in revolving or alternating manners, and such cases tended to go along tragic courses.

EDMUL might be a disorder essentially different from PED. The EDMUL subjects gave us an impression that their eating behaviors were much more vigorous than those seen in PED subjects. This might be noticed by the fact that three quarters of EDMUL subjects took purging behaviors including intentional vomiting, frequent and massive uses of laxatives, and misuse of, for example, detergents used in the kitchen or toilet for laxatives. The EDMUL subjects tended to behave in an enchanting manner toward men, which might be associated with the higher rate of marriage and divorce in EDMUL than in PED, and with the high incidence of promiscuity. Taking into account these issues together with other pathological behaviors such as shoplifting and abuse of alcohol and other drugs, one might suppose that EDMUL is not a mere form of eating disorders but a disorder with a wide spectrum of problematical behaviors probably caused by vigorous and uncontrollable intrinsic impulses of the patients. We believe that Evans and Lacey referred to their patients as multi-impulsive, based on the same impression as we had.

It is conceivable that EDMUL is a disorder which is nosologically distinct from PED, because an extremely high incidence for alcoholism and other deviated forms of behaviors was found in the relatives of the EDMUL subjects, which showed striking contrast against the intrafamilial traits for PED. If it is supposed that some biological traits for vigorous intrinsic impulse are commonly possessed by members of a family, it might be expected that seemingly different forms of problematical behaviors emerge among the family members as a manifestation of the traits and that EDMUL is the extreme form of the manifestation.

It is also highly probable that the EDMUL in this study is nosologically different from the pure alcohol-dependence syndrome not accompanied by established eating disorders. Among the 18 EDMUL subjects diagnosed as having alcohol-dependence syndrome, as many as 61% could abstain from alcohol for more than 1 year. In general, 1-year sobriety was reportedly achieved only by 21% of the female patients diagnosed as having alcohol-dependence syndrome (AMO, 1988). The surprisingly high rate of sobriety among the EDMUL subjects might, therefore, be suggestive of the idea that the apparent alcohol-dependence syndrome observed in the EDMUL patients is different in nature from the proper alcohol-dependence syndrome.

Incidentally, an EDMUL subject who was diagnosed as having alcohol-dependence syndrome based on her drinking-bout pattern, withdrawal symptoms, and so forth became capable of controlling the drinking of alcohol, which was confirmed to last for at least 1 year

and a half. However, in this EDMUL subject, who was once seemingly alcohol-dependent, binge-eating/purging behavior was observed to substitute for the drinking-bout pattern, and other pathological behaviors such as promiscuity and self-harmful behaviors also emerged in a revolving manner during the period of controlled drinking. These findings might be interpreted to mean that the impulse of the subject that had driven the subject towards alcohol drinking changed its driving direction to other problematical behaviors including ruined eating behavior.

In the present paper, we described characteristics of EDMUL, a disorder distinct from PED and pure alcoholism. The wide spectrum of problematical behaviors of EDMUL patients appeared to be severely self-destructive from the physical and social viewpoints, and might be attributed to a vigorous and uncontrollable intrinsic impulse of the patients, although the validity of this hypothesis remains to be studied further. Supporting the notion of Evans and Lacey, we propose that the variety of problematical behaviors of EDMUL patients should be taken as facets of a single disorder and that enduring efforts should be taken to improve the patient's development as a human being rather than to struggle with the manifestation of the respective behaviors.

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