Journal of Pediatric Surgery (2005) **40**, 1156–1162

ELSEVIER

Journal of Pediatric Surgery

www.elsevier.com/locate/jpedsurg

Psychosocial liaison-consultation for the children who have undergone repair of imperforate anus and Hirschsprung disease

Syunichi Funakosi[a,*], Junko Hayashi[b], Takamichi Kamiyama[c], Takashi Ueno[d], Tomohiro Ishii[c], Motoshi Wada[c], Shintaro Amae[c], Shigehiko Yoshida[c], Yutaka Hayashi[c], Hiroo Matsuoka[a]

[a]*Department of Psychiatry, Graduate School of Medicine Tohoku University, Miyagi-ken 980-8574, Japan*
[b]*Under Graduate School, Nagasaki University School of Medicine, Nagasaki-ken 852-8523, Japan*
[c]*Department of Pediatric Surgery, Graduate School of Medicine, Tohoku University, Miyagi-ken 980-8574, Japan*
[d]*Division of Clinical Psychology, Department of Human Development and Disabilities, Tohoku University, Graduate School of Education, Miyagi-ken 980-8576, Japan*

Index words:
Children's depression inventory;
Mother-child bond;
Anorectal malformation;
Psychological support;
Liaison-consultation psychiatry

Abstract

Objective: The aim of this study was to investigate the psychological status of Japanese children with congenital anorectal malformation and their mothers to develop appropriate psychiatric interventions.

Method: The subjects comprised 50 children with congenital anorectal malformation aged 0 to 16 years and their mothers. The psychology of children aged 7 to 16 years was investigated by Kovacs' Children's Depression Inventory (CDI). The psychology of their mothers was assessed by Spielberger's State-Trait Anxiety Index (STAI) and Zung's Self-rating Depression Scale (SDS).

Results: Depression was more marked in the children aged 12 to 16 years than in those aged 7 to 11 years according to the CDI. The mothers of preschool children showed higher levels of anxiety and depression than those of school-aged children, according to the STAI and SDS. Significant correlations between the CDI score of the children and the STAI or SDS score of the mothers were observed only among children aged 7 to 11 years.

Conclusions: The frequency of depression and anxiety among children with congenital anorectal malformation and that among their mothers was associated with the age of the child. Long-term postoperative psychosocial support for the children and their mothers may be required, taking into account the age of the child.

Liaison-consultation psychiatry in the medical care of children has mainly been studied in children with a chronic disease [1]. Liaison-consultation psychiatry has been used to treat psychiatric problems in the mood and behavior of children with asthma, diabetes mellitus, pediatric cancer, and AIDS and those who have undergone organ transplantation for kidney or liver disease, and the risk factors for

* Corresponding author. Tel.: +81 22 717 7264; fax: +81 22 717 7737.
E-mail address: fwkc9137@infoweb.ne.jp (S. Funakosi).

0022-3468/$ – see front matter © 2005 Elsevier Inc. All rights reserved.
doi:10.1016/j.jpedsurg.2005.03.059

psychiatric disorder have been discussed. The focus of recent studies has shifted from treatment of solely the patient's psychiatric problems to comprehensive treatment, taking into account the relationship of the patient with his/her family, the clinical course of the disease, and the psychological development of the patient. It has become mainstream to study affected children in a more comprehensive manner [2].

Patients with imperforate anus are rarely involved with medical institutions after surgery. However, in quite a few cases of moderate-to-severe anal atresia, the anus finally forms but fails to fully develop constrictor function, and children often complain of problems such as fecal incontinence after entering school [3]. Therefore, families with such children continue to suffer for a long period. A survey on the psychology of affected children revealed that even among children with anal atresia and normal intelligence, 17.9% of them had behavioral maladjustment [4]. A survey on psychiatric disorders using the *Diagnostic and Statistical Manual of Mental Disorders, Revised Third Edition* (*DSM-III-R*) (American Psychiatric Association) revealed that 58% of children with anal atresia had some kind of psychiatric disorder [5]. On the other hand, a different study found no significant difference in social competency between children with anal atresia and healthy children [6]. Therefore, there is no general consensus on the psychosocial adjustment of children with anal atresia.

It is also known in Hirschsprung disease that large intestinal resection causes disturbances in absorption and defecation. Because of severe constipation or diarrhea, problems such as fecal incontinence arise after the children enter school [3]. As in the case of anal atresia, medical institutions are rarely involved in the care of children with Hirschsprung disease after surgical treatment. Psychiatric disorders were found in 16% of children with Hirschsprung disease, as assessed by *DSM-III-R* [7]. Fasten [8] reported that treatment not only by physicians but also by clinical psychologists could improve the fecal dysfunction in patients with Hirschsprung disease.

In a preliminary study [9], we investigated the psychological status of 4 children with fecal dysfunction and their mothers, with the participation of child and adolescent psychiatrists and clinical psychologists. In many cases, anxiety and depression were observed in both the mother and the child, and psychiatric intervention was considered necessary for them. In the present study, we investigated the psychological status of 50 children with fecal dysfunction and their mothers using self-assessment types of psychological tests to determine appropriate psychiatric interventions for these patients.

1. Method

1.1. Subjects

Fifty children with congenital anorectal malformation who had undergone surgery to correct the anorectal malformation and were followed up at the outpatient clinic of the Division of Pediatric Surgery, Tohoku University Hospital, and their mothers participated in this study. In the children aged 7 years or older, informed consent was obtained from the children and from their mothers. In the children aged 6 years or younger, informed consent was obtained only from their mothers. This study was approved by the ethical committee of the Tohoku University School of Medicine and was carried out from April 2001 until March 2003. Children with other congenital diseases such as Down's syndrome were excluded from the study. The 50 children with congenital anorectal malformation comprised 11 cases with high-position anal atresia, 11 with intermediate-position anal atresia, 15 with low-position anal atresia, and 13 with Hirschsprung disease. The age distribution and sex of the children are shown in Table 1. Because the demographic factors of the patients with anal atresia and those of the patients with Hirschsprung disease in the present study differed, we did not compare the patients with the 2 diseases. All of the children aged 6 years or older received compulsory education in Japan. The mothers had no somatic or psychiatric disorders. As a control group for the patients aged 7 years or older who took the psychological test, 7 children (age range, 7-11 years) with constipation but who did not have a somatic disorder and who were followed up at the outpatient clinic of the Division of Pediatric Surgery were also surveyed.

A child psychiatrist (SF) and a graduate student working toward a doctoral degree in education (JH) interviewed all of the children and their mothers regarding the develop-

Table 1 Age distribution and diagnoses of the subjects

Age (y)	Patients, female/male (N = 50)	Disease				
		High-position anal atresia	Intermediate-position anal atresia	Low-position anal atresia	Hirschsprung disease	Constipation
0-6	21 (9:12)	5 (2:3)[a]	3 (0:3)	10 (6:4)	3 (1:2)	
7-11	17 (7:10)	3 (3:0)	5 (1:4)	3 (1:2)	6 (2:4)	7 (3:4)
12-16	12 (1:11)	3 (0:3)	3 (0:3)	2 (0:2)	4 (1:3)	

[a] Number of subjects (female/male) is shown.