

ORIGINAL ARTICLE

PAIN AS LEADING SYNDROME OF THE SOMATOFORM DISORDERS AT THE PEDIATRICS

DOI: 10.36740/WLek202006106

Oleh V. Chernyshov, Maksim U. Zak, Nataliia N. Shawlis, Svetlana V. Zhuk

PETRO MOHYLA BLACK SEA NATIONAL UNIVERSITY, MYKOLAIV, UKRAINE

ABSTRACT

The aim: Study of somatoform vegetative dysfunction' clinical features at adolescent age with a chronic pain (HA syndrome and AP syndrome), and also socially-psychological factors of its formation too.

Materials and methods: There are 82 teenagers have been examined in this research: 48 girls (58,5 %) and 34 young men (41,5 %) at the age of 16 – 17 years. Research will be done according to diagnostic criteria of ICD-10.

Results: An aetiological basis of HAS and APS are various somatoform disorder mostly at teenage age (70,8 % cases at girls and in 58,8 % – at young men). 32,2 % of the patients had various neurotic disturbances with anxiety-depressive symptoms in a genesis of HAS and APS. Somatoform vegetative dysfunction – the most widespread reason of HAS and APS development among teenagers. Among teenagers HAS cases (68,8 % – at girls, 58,8 % – at young men) essentially prevail over APS (31,2 and 41,2 % cases accordingly). All adolescents had combine negative life events in their life. Girls felt psychotraumatic experience more strongly than young man. The greatest combine negative life experience has been revealed in a subgroup of girls with HAS. The least influence of psychotraumatic factors was observed at young men with APS.

Consequently, SVD, accompanied by severe pain in adolescence – is pathogenic complex and combined mental disorders, requiring adequate psychopharmacological and psychotherapeutic intervention.

Conclusions: Chronic stressful situations were experienced by each of the examined patients. Each of the teens noted combination of stress problems in their lives. The widespread common problem among the examined adolescents was a sense of being overprotected by parents. Consequently, SVD, accompanied by severe pain in adolescence – is pathogenic complex and combined mental disorders, requiring adequate psychopharmacological and psychotherapeutic intervention.

KEY WORDS: somatoform disorder, headache, abdomen pain, abuse syndrome, addictive behavior

Wiad Lek. 2020;73(6):1114-1118

INTRODUCTION

Different variants of somatoform disorders – are one of the most widespread types of mental disorders occurring now in adolescence in common somatic practice. Much of the pathology is presented by autonomic dysfunction syndrome (SVD). Clinical pathogenetic basis of SVD – is dysregulations of suprasedgmental vegetative structures, developing as a systemic reaction of higher nervous and mental activity on acute or chronic emotional stress. So SVD manifests as vegetative disorders, various emotional and cognitive and behavioral disorders, in which intrapersonal psychological conflict is not expressed by psychopathological symptoms, but by somatic equivalents – somatoform neurotic complex of symptoms. Adolescence is characterized by polymorphic clinical picture of SVD. But almost all the variations of SVD in adolescents are accompanied by functional disorders of cardiovascular system and gastrointestinal tract, as well as pain. Most commonly, symptoms of chronic pain manifest in adolescents in the form of syndromes of cephalgia (CE), cardialgia (CA) and abdominal pain (AB). Psychosocial nature – is the basis of this cluster of psychopathological disorders, when somatic symptoms

become the main manifestation of emotional and interpersonal problems in adolescents. [1, 2] One can attribute psychophysical infantilism, destructive parenting styles, alexithymia to psychological qualities and characteristics of personality, which condition the formation of SVD in adolescence [3,4].

Due to the whole complexity of pathogenesis SVD is often the basis for the development of comorbid mental and behavioral pathology.

Therefore, early diagnosis and effective treatment of SVD in adolescence – is the major problem of modern psychiatry, as the complexity of their differential diagnosis and therapy is connected with the fact that an important pathogenetic role in the development of psychopathologic disorders is played by psychological mechanisms and social factors [5].

THE AIM

To study clinical features of formation of comorbid combination of SVD with manifestations of chronic pain (CEs and ABes) and different kinds of addictive behavior in adolescents.

MATERIALS AND METHODS

Within the research, 82 adolescents were examined: 48 girls (58.5%) and 34 boys (41.5 %) aged 16 – 17. All teenagers were students of senior high school. Reason for seeking psychiatric help was badly jugulated pain or failure to jugulate pain without identification of any serious somatic disease that can cause similar pain. Differential diagnostic examination of patients was conducted according to the diagnostic criteria for mental and behavioral disorders within the ICD-10 [6], statistical data processing – by methods of variation statistics using Microsoft Excel. The study complies with: Law of Ukraine «Про лікарські засоби» № 123/96-ВР from 04.04.96 p., ст. 8; requirements of the Directive 2001/20/EU The European Parliament and the Council; Convention on the Protection of Human Rights and Dignity in the Application of Biology and Medicine Convention on Human Rights and Biomedicine (1997 y.), Of the Law of Ukraine «About psychiatric help»; The Declaration of Helsinki: Recommendations for Doctors in Biomedical Research with Human Involvement (1964); WHO recommendations to the Ethics Committees, conducting the examination of biomedical research; requirements of Good Clinical Practice (GCP).

RESULTS AND DISCUSSION

Table I shows the distribution of adolescents according to sex, as well as according to identified psychopathological nosologies and in accordance with presence of headache syndrome or gastralgia. It was found that somatoform vegetative dysfunction with cephalgia syndrome (F45.30) was most frequently observed in the group of examined adolescents – 23,2% of cases. In general, among the patients examined, more than in half of cases SVD was the leading clinical manifestation of various somatoform disorders (60.9 %) in 29 girls (60.4 %) and 20 boys (58.8%). Anxiety and depressive symptoms within various disorders were recorded in the whole of 32.9 % of cases: in 17 girls (35.4 %) and 10 boys (29.4%). Least likely to cause the formation of SVD were asthenic symptoms within organic disorder of CNS, which was predominantly detected in boys. CEes prevailed among both girls and boys considerably, in comparison with the number of cases, in which abdominal pain was presented as the leading complaint. But if the number of cases of CEes in boys was for 17.7% higher than the number of patients with ABes ($p < 0.05$), among the girls this difference was already 37.5 % – that is almost twice as much ($p < 0.01$). An important result was the data that in both girls and boys in identifying hypochondriacal disorder (F45.2) and chronic pain disorder (F45.4) ABes remarkably prevailed over CEes ($p < 0.05$).

As is known and as mentioned above, SVD is somatoform expression of affective reaction to experiencing chronic or acute emotional stress. So SVD is considered as the conversion of unresolved intrapersonal and interpersonal conflicts. The results of diagnostic examination of adolescents showed that acute or chronic stressful situations occurred in each of the examined patients. Data,

obtained during the diagnostic interview of patients, are presented in Table II.

Overall, each of the adolescents talked about combination of different problematic areas, stressors in their lives. The greatest number of combined traumatic factors was identified in the subgroup of girls with CEes and it reached 139.1 % in relation to the total number of patients in this subgroup. In other subgroups level of stressors was considerably lower and did not exceed 90 % ($p < 0.01$). The obtained results showed that among girls experiencing psycho-traumatic factors was notably stronger than among boys. The least influence of stressful factors was found in boys with ABes.

The most common problem among the examined adolescents was sense of being overprotected by parents (65.9 % of cases). At the same time there was remarkable difference in such style of parent-child relationships in boys and girls. Among girls, suffering CEes and ABes, overprotection by parents was observed in almost equal numbers of cases and in more than 80% of patients. And among boys with ABes such style of parental behavior was detected 2.6 times more frequently ($p < 0.01$).

An important indicator of increased stress vulnerability of the examined adolescents was the second most common among them prevalence of feelings of psychological loneliness. More than half of the patients reported that they felt such feeling (51.2 % of adolescents in general). Psychological loneliness was mostly experienced by patients with ABes – both boys and girls. At that girls of the subgroup with ABes considerably more frequently experienced psychological loneliness as compared to patients of other subgroups ($p < 0.01$).

Almost half of the examined adolescents called frequent conflicts with parents and fear of the future as traumatic effects – in whole in 46.3 and 45.1% respectively. Constant conflicts with parents considerably more often were detected in boys with CEes, and fear of the future – in young men and women with ABes ($p < 0.05$). Patients of both sexes with ABes also considerably more often called a sense of constant misunderstanding of their experiences and condition by parents, as well as anxiety and fears about inability to meet the expectations of relatives as a psychogenic stressor ($p < 0.05$). These psychogenic factors were not so significant for adolescents, suffering CEes.

Rather important result was the data that almost every fourth teenager (overall 26.8 % of cases) had a sense of meaninglessness in relation to his/her own life, which directly correlated with the severity of depressive symptoms in patients, as shown in Tables II and III.

Specific feature of these disorders is that in girls with CEes (18.2%) and ABes (26.7%) they were less common. At ABes among both boys and girls meaninglessness was experienced by every fourth patient. The fact that boys with CEes experienced meaninglessness significantly more frequently indicates a high probability of comorbid transition of SVD to depressive pathology. This thesis was confirmed by the data that 40.0 % of boys with CEes had constant conflicts with teachers at school. The majority of

Table 1. Distribution of adolescents according to gender, nosological entities disorders and a leading pain syndrome (CEes and ABes), absolute amount (%)

Nosological forms of disorders	Examined patients				Total in groups
	boys, N = 34		girls, N = 48		
	CEes	ABes	CEes	ABes	
Somatoform vegetative dysfunction with CEes, F45.30	6** (30,0)	-	13** (39,4)	-	19 (23,2)
Hypochondriacal disorder, F45.2	1 (5,0)	3* (21,4)	2 (6,1)	6** (40,0)	12 (14,6)
Panic disorder, F41.0	3* (15,0)	-	7* (21,2)	-	10 (12,2)
Slight depressive episode with somatic symptoms, F32.01	2 (10,0)	3 (21,4)	3 (9,1)	2 (13,3)	10 (12,2)
Chronic pain disorder, F45.4	2 (10,0)	4* (28,6)	1 (3,0)	3* (20,0)	10 (12,2)
Somatoform autonomic dysfunction with ABes, F45.31	-	4** (28,6)	-	4** (26,7)	8 (9,8)
Adjustment disorder: depressive reaction with CEes, F43.21	2 (10,0)	-	5* (15,2)	-	7 (8,5)
Asthenic organic disorder of CNS with CEes, F06.6	4* (20,0)	-	2 (6,1)	-	6 (7,3)
Total (% of the total number of patients)	20 (24,3)	14 (17,1)	33* (40,2)	15 (18,3)	82 (100)

* p < 0,05; ** p < 0,01.

Table 2. Distribution of adolescents according to gender, the leading pain syndrome (CEes and ABes), presence of intrapersonal and interpersonal problems, absolute amount (%)

The content of the problems	Examined patients				Total in groups
	boys, N = 34		girls, N = 48		
	CEes, N = 20	ABes, N = 14	CEes, N = 33	ABes, N = 15	
Overprotection by parents	5 (25,0)	9** (64,3)	27 (81,8)	13 (86,7)	54 (65,9)
Psychological loneliness	12 (60)	10 (71,4)	8 (24,2)	12 (80,0)	42 (51,2)
Frequent conflicts with parents	11* (55,0)	5(35,7)	16** (48,5)	6 (40,0)	38 (46,3)
Fear of the future	4 (20,0)	11 (78,6)	13 (39,4)	9 (60,0)	37 (45,1)
Misunderstanding with parents	7 (35,0)	7 (50,0)	12 (36,4)	10* (66,7)	36 (43,9)
Fear not to meet expectations	4 (20,0)	6 (42,9)	15 (45,5)	11 (73,3)	36 (43,9)
Meaninglessness	8* (40,0)	4 (28,6)	6 (18,2)	4 (26,7)	22 (26,8)
Conflicts with teachers	8 (40,0)	4 (28,6)	5 (15,2)	2 (13,3)	19 (23,2)
Unsubstantiated claims of parents	6 (30,0)	4 (28,6)	6 (18,2)	3 (20,0)	19 (23,2)
Conflicts with close friends	3 (15,0)	2*(14,3)	5 (15,2)	2 (13,3)	12 (14,6)
Total (% of total patients)	68 (82,9)	62 (75,6)	113** (139,1)	72 (87,8)	82 (100)

* p < 0,05; ** p < 0,01.

patients in this subgroup had constant conflicts with parents (in 55.0 % of cases), experienced sense of psychological isolation (60.0 %) and suffered more often than others (30.0 % of cases) from unsubstantiated claims, accusations from parents. These data support the conclusion that CEes in boys correlate with severe affective (depressive symptoms) and behavioral disorders (oppositional protest behavior).

An important factor in understanding the nature of psychogenic basis in the formation of CEes and ABes in the examined adolescents was that conflicts with close friends were considered by the patients as the most significant

psycho-traumatic impact most rarely – overall in 14.6 % of cases and in almost equal proportions in all subgroups. Consequently, availability of problems in family relationships and depressing intrapersonal experiences have more significant pathogenetic sense in the development of neurotic (somatoform) and behavioral disorders in adolescence. These results were confirmed by rather low importance of conflict situations at school, with teachers for adolescents (overall in 23.2 % of cases).

In patients, in whom the leading manifestation of SVD was CEes, minimum level of depression was recorded at asthenic

Table 3. Distribution of adolescents according to gender, leading pain syndrome (CEes and ABes), nature of addictive behavior, absolute amount (%).

Characteristics of addictive behavior	Examined patients				Total in groups
	boys, N = 34		girls, N = 48		
	CEes, N = 20	ABes, N = 14	CEes, N = 33	ABes, N = 15	
Emotionally dependent relationship in the family	6 (30,0)	9 (64,3)	26 (78,8)	14 (93,3)	55 (67,1)
Internet addiction of social networking	8 (40,0)	6 (42,9)	26 (78,8)	7 (46,7)	47 (57,3)
Gaming Internet addiction	17 (85,0)	10 (71,4)	7 (21,2)	9 (60,0)	43 (52,4)
Occasional use of drugs	12 (60,0)	5 (35,7)	3 (9,1)	-	20 (24,4)
Nicotine Addiction	13 (65,0)	6 (42,9)	-	-	19 (23,2)
Emotionally addictive relationship with a partner	4 (20,0)	-	6 (18,2)	2 (13,3)	12 (14,6)
Abuse of alcohol (beer)	8 (40,0)	2 (14,3)	-	-	10 (12,2)
Cannabinoid addiction	6 (30,0)	-	-	-	6 (7,3)
Food addiction (anorexia)	-	-	-	5 (33,3)	5 (6,1)
Total (% to number of patients in group)	70 (350,0)	38 (271,4)	68 (206,1)	37 (246,7)	82 (100)

organic CNS disorder with CEes (F06.6), and the maximum one – at the depressive reaction with CEes (F43.21), chronic pain disorder (F45.4) and mild depressive episode with somatic symptoms (F32.01). Severity of depression in girls considerably prevailed in all kinds of nosological disorders ($p < 0.05$). The exception was only mild depressive episode, at which maximum severity of depressive symptoms was recorded in young men ($24,8 \pm 2,8$ points). The same tendency of notable prevalence of depressive experiences among girls was observed in patients with ABes. Only at chronic pain disorder (F45.4) in boys and girls the highest level of depression was recorded. The fact that at chronic pain disorder and mild depressive episode the highest level of depressive symptoms was observed indicated that: these types of mental pathology are subjectively most severely suffered by teenagers. All the adolescents (11 boys and 9 girls), who were diagnosed with these types of pathology, reported troublesome relationships in family and school during a long time. However, they did not associate their mental state with interpersonal problems, experienced by them.

CONCLUSIONS

Thus, it was found during the research that among the examined patients adolescents who were diagnosed CEes remarkably prevailed over those who had ABes. Leading etiological basis of pain syndrome in adolescence are different variants of somatoform disorders. Significant contribution to the genesis of CEes and ABes is also made by affective neurotic disorders.

Chronic stressful situations were experienced by each of the examined patients. Each of the teens noted combination of stress problems in their lives. Overall among girls influence of psycho traumatic impact on formation of SVD was considerably stronger than among boys. The largest number of combined psycho traumatic factors was identified in the subgroup of girls with CEes. The

least stressful influence of psycho traumatic factors was observed in young men with ABes.

The widespread common problem among the examined adolescents was a sense of being overprotected by parents (65.9 % of cases). At the same time there was considerable difference in similar style of parent-child relationships in boys and girls. 51.2 % of teens said they felt sense of psychological isolation, that is most typical for of patients with ABes. Overall in 46.3 and 45.1 % of the examined adolescents frequent conflicts with parents and fear of the future were called as traumatic effects. In boys CEes correlated with severe affective and behavioral disorders.

The study of depression level according to A. Beck depression inventory found that all the examined patients had at least moderate severity of depressive symptoms. Patients with CEes had maximum depression level, recorded in the depressive reaction with CEes (F43.21), chronic pain disorder (F45.4) and mild depressive episode with somatic symptoms (F32.01). Severity of depression in girls notably prevailed at almost all kinds of nosological disorders ($p < 0.05$). The highest level of depression in both boys and girls was observed at chronic pain disorder (F45.4).

It is important to note that all the examined patients did not consult psychiatrist timely, as the main complaint among adolescents were headache or abdominal pain, masked mental disorders. Consequently, SVD, accompanied by severe pain in adolescence – is pathogenic complex and combined mental disorders, requiring adequate psychopharmacological and psychotherapeutic intervention.

REFERENCES

1. Antropov Y.F. Psychosomatic disorders in children and adolescents. Moscow, 1997, p.198
2. Isaev D.N. Psychosomatic disorders in children. St. Petersburg: Peter, 2000. p. 512.
3. Mendelevich V.D., Solovieva S.L. Neurosologia and psychosomatic medicine. Moscow: Medpress-inform, 2002. p. 608.

4. Bräutigam V., Christian, P., Rad M. Psychosomatic Medicine. Moscow, 1999. p.376
5. Aleksander F. Psychosomatic medicine. Principles and application. Moscow: Perrls, 2000. p. 296
6. Rodtsevych O.G. Somatoform vegetative dysfunction of digestive system in children: clinical findings, diagnostics, treatment. Medical news. 2010. 1: 40-41.

The work is a fragment of scientific topics «Features of non-psychotic psychiatric disorders in patients under conditions of socio-economic transformation and development of a model of complex medical and medical-psychological care» (state registration number 0114U000991)

ORCID and contributorship:

Oleh V. Chernyshov – 0000-0001-9427-486X^{A,B,C,D}

Maksim U. Zak – 0000-0002-9931-4290^{E,F}

Nataliia N. Shawlis – 0000-0002-2191-3162^E

Svetlana V. Zhuk – 0000-0002-0034-6111^C

Conflict of interest:

The Authors declare no conflict of interest.

CORRESPONDING AUTHOR

Oleh V. Chernyshov

Petro Mohyla Black Sea National University Medical Institute,
Department of therapeutic and surgical disciplines
Architektora Starova street 4k, 54046 Mykalaiv, Ukraine
tel: +380679814954
e-mail: stramosliab@gmail.com

Received: 03.03.2020

Accepted: 07.05.2020