Somatic Disorders of Clients in the Centre for Rehabilitation of Torture Victims: The One-Year Experience of "MEDIAN"

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Abstract

The aim of this project was to determine the frequency and type of somatic disorders in clients of the Centre for Rehabilitation of Torture Victims (CRTV), who have been exposed to armed conflicts in former Yugoslavia between 1991 and 1999. We have involved those CRTV clients who have complained about somatic health related problems, and who have been referred to us upon primary screening by IAN psychiatrists and psychologists. We have also included victims of torture from refugee camps covered by MEDIAN physicians during their field visits. The diagnosis was set on the basis of available medical documentation, anamnesis, physical examination and additional necessary diagnostic methods (ECG, ultrasound of the heart, physical burdening test, Holter ECG monitoring, EEG). The project has encompassed 730 patients (355 men and 375 women), with average of 54±11 years of age. In 63% of the cases cardiovascular diseases were established as the primary diagnosis, of which 82% of patients were diagnosed with arterial hypertension and 5.2% with coronary diseases. The second most frequent group of disorders were those of endocrine glands (11.8%), of which 67.4% of patients were diagnosed with diabetes mellitus. CRTV clients represent a population with high risk of developing somatic disorders.

INTRODUCTION

Between 1991 and 1999, in the course of wars waged in former Yugoslavia, a great numbers of civilians and soldiers were exposed to various forms of torture. It is well known that torture and stress experienced by individuals can affect his/her psychic and physical health. The mechanism leading to linkages between psychic stress and chronic somatic disorders has not yet been fully clarified. However, it is known that exposure to stress leads to an almost immediate increase of activity in the cortex of adrenal glands (Golde & McCarthy, 1995; Resnick, Yehuda, Pitman & Foy, 1995), which subsequently, together with somatisation of psychic problems, could cause serious chronic damage of various organic systems. There are numerous data indicating that these patients most frequently suffer from cardiovascular system damages (Shalev et al, 1998; Beckham et al, 2000).

Unfortunately, domestic and foreign literature contains very little data on frequency and/or type of somatic disorders in torture victims from former Yugoslavia. The reasons for this are not entirely clear. Possible reasons could include the relative indifference of the scientific public for this range of problems, lack of a comprehensive data base that would include torture victims, relatively poor access to public health resources, as well as the failure of physicians in public health institutions to recognise psychosomatic discomfort and health problems caused by the prior traumatic experience and stress.

Baring in mind the significance of this problem, as well as the lack of understanding of the specific needs of torture victims that is currently present in the official health institutions, MEDIAN has launched a programme of medical care for torture victims.

The aim of this project was to determine the frequency and type of somatic disorders in clients of the Centre for Rehabilitation of Torture Victims who have experienced torture and stress during armed conflicts in former Yugoslavia from 1991 to 1999, as well as to provide adequate medical care for the patients.

METHODOLOGY

PATIENTS

The patients were included in the project on the basis of internal IAN CRTV referrals, as well as through identification during field visits to refugee collective centres. Discretionary right to patient referral was held by IAN psychiatrists and psychologists, the latter with additional obligation to consult with the psychiatrist prior to referral. Such model was established in order to ensure initial basic screening, so that appropriate medical care could be prioritised and provided to the most needy, given the limited human and material resources of the clinic.

Fieldwork included visits of teams of specialist medical doctors to refugee collective centres. They have visited 10 centres with a total of 850 refugees from Croatia, Bosnia and Herzegovina and internally displaced from Kosovo.

MEDICAL DOCTORS

The project involved specialists of internal medicine, who have also sub-specialised in cardiology, as well as specialists in neurology. Such choice of specialists was made taking into account previous data in this field showing that the most frequent somatic pathology of torture victims falls into these categories. Moreover, we were convinced that smaller and more focused teams would be more effective, and that other specialists should be involved only in case of need. The field engagement was covered by two-member teams of internal medicine specialists, since we concluded that this profile is the most suitable for this type of work.

DIAGNOSTICS

All patients included in the programme were submitted to a basic specialist examination. Examinations of all patients referred by IAN were performed in MEDIANS office, whereas field examinations were done in improvised premises in collective centres visited. If the first examination showed that additional diagnostics would be required, apart from the electrocardiogram (ECG), patients were sent for subsequent examinations. These additional examinations included the electrocardiogram, ultrasound of internal organs, physical burdening test, 24 hours Holter monitoring, electroencephalogram and electomyogram. During field examinations only the ECG was available in terms of additional examinations, and if the responsible physician had assessed that the patient needed any other additional examination, these patients were referred to the MEDIAN clinic.

DIAGNOSIS

The diagnosis was established on the basis of available medical documentation, anamnesis, physical examination and necessary additional methods (ECG, physical burdening test, Holter electrocardiograph monitoring and electroencephalogram). The diagnoses were classified and coded on the bases of the Tenth International Classification of Diseases. Each patient could obtain a maximum of three diagnoses, ranked by priority based on the discretionary right of the responsible treating physician.

TREATMENT

All patients were given an explanation about the nature of their disorder and given a written advice on appropriate hygiene and dietary regime, as well as further medication therapy. If the disease required a surgical treatment, this was elaborately justified and patients were fully informed where the suggested interventions could be performed. In exceptional cases we have scheduled reception for some patients in specialist institutions in Belgrade, if the assessment showed that urgent surgical intervention or intensive medication treatment was of vital importance for the patient.

STATISTICAL ANALYSIS

All numeric data are shown as mean values ± standard deviation. In processing parameter and non-parameter data we have used the Student's t-test and the chi-square test, respectively.

RESULTS

PATIENTS

The project has encompassed 730 patients (355 men and 375 women), with average of 54±11 years of age. A total of 512 patients were referred by IAN, whereas 218 patients have been targeted through fieldwork. There were no statistically relevant differences with regard to age and gender of patients referred from IAN and those targeted through field work (54±10 vs. 55±11 year of age, $p>0.05$, respectively; 252/512 vs. 103/218 men, $p>0.05$, respectively).

Data on professional qualifications were available for 315 patients, of which 124 (39,3%) have completed primary school or vocational training, 165 (52,4%) had intermediate or secondary education level, whereas 26 patients (8,3%) had advanced or high level education. Regarding their marital status, data were available for 438 patients, of which 345 (78,7%) were married, 16 (3,6%) divorced, 43 (9,8%) were unmarried, while 34 (7,9%) of them were widowed.

The project has encompassed patients of all nationalities from the former Yugoslavia. Unfortunately, data on exact areas from which the patients had been exiled have not been closely followed and are therefore unavailable for most of the patients. Since we believe this is a very important piece of information, we have asked all physicians involved in the project to give their assessment of where their patients might have originated. This way we roughly estimated that about 50% of patients came from the territory of Croatia, about 40% from Bosnia and Herzegovina, while around 10% of patients came from Kosovo.

DIAGNOSTICS

We have performed a total of 866 examinations on 730 patients: there were 747 first specialist examinations and 119 control follow-up examinations. In case of 17 patients it was necessary to involve specialists from other fields. As regards first examinations, we have made 453 internist, 250 cardiological and 44 neurological examinations. The follow-up involved predominantly cardiological examinations, a total of 84 of them, followed by internist (30 examinations) and neurological (5 examinations).

ECG was done 354 times, for 291 patients during the first specialist examination, whereas for 61 patients ECG was done during follow-up. Ultrasound was done for 41 patients, physical burdening test was performed with 24 patients, while the 24hour Holter monitoring was done for 5 patients. The standard electroencephalogram was done for 18 patients, while only one patient was given the prolonged electroencephalogram.

DIAGNOSIS

As stated above, the study involved 730 patients. The most frequent diagnoses, determined in 460 (63%) patients were the cardiovascular diseases, while in 86 (11.8%) patients we have diagnosed endocrine glands disorders. In 44 (6%) patients digestive system disorders were diagnosed, while 43 (5.9%) of them were diagnosed with nervous system disorders. Other registered groups of diseases include respiratory tract diseases in 20 (2.7%) patients, musculoskeletal system disorders in 18 (2.5%) patients and mental disorders in 12 (1.6%) cases. In the remaining 43 (5.9%) patients were suffering from other diseases (infectious diseases 2, tumours 2, haematic diseases 8, eye and ear disorders 2, urogenital system diseases 5, congenital disabilities 7, injuries 6 and pathological clinical and laboratory results in 11 cases). Table 1 shows the occurrence frequencies of the most heavily represented diseases and disorders within specific groups of diseases.

Table 1. Occurrence frequencies of the most heavily represented diseases and disorders within specific groups of diseases as primary diagnoses.

Disorder	Frequency within groups of disorders	Overall frequency in tested population
Endocrine glands disorders		
Non-toxic struma	5/86 (5.8%)	5/730 (0.7%)
Hyperthyroidism	3/86 (3.5%)	3/730 (0.4%)
Insulin dependent diabetes mellitus	5/86 (5.8%)	5/730 (0.7%)
Insulin independent diabetes mell.	53/86 (61.6%)	53/730 (7.3%)
Hyperlipoproteinemia	14/86 (29.5%)	14/730 (1.9%)

Disorder	Frequency within groups of disorders	Overall frequency in tested population
Nervous system disorders		
Mb. Parkinson	3/43 (6.8%)	3/730 (0.4%)
Epilepsy	19/43 (43.2%)	19/730 (2.6%)
Migraine	6/43 (13.6%)	6/730 (0.8%)
Headache	13/43 (29.5%)	13/730 (1.8%)
Cardiovascular system diseases		
Arterial hypertension	378/460 (82%)	378/730 (51.8%)
Coronary disease	44/460 (9.6%)	44/730 (6%)
Arterial fibrillation	14/460 (3%)	14/730 (1.9%)
Digestive system disorders		
Ulcer	10/44 (22.7%)	10/730 (1.4%)
Gastritis	23/44 (52.3%)	23/730 (3.1%)
Musculoskeletal system disorders		
Back pain	19/29 (65.5%)	19/730 (2.%)

Secondary diagnosis was established for 239 out of 730 (32.7%) patients. Similar to the above, cardiovascular disorders were most frequently represented as the second most important disease and were diagnosed in 150 (62.8%) cases, while musculoskeletal system disorders were established in 18 (7.5%) cases, digestive system disorders in 16 (6.7%) cases, and endocrine glands diseases and nervous system disorders in 10 (4.2%) cases each. Other types of disorders were identified in the remaining 21 (8.7%) patients. Table 2 shows the occurrence frequency of the most heavily represented diseases and disorders as the second most important diagnosis within specific groups of diseases.

Table 2. Occurrence frequencies of the most heavily represented diseases and disorders within specific groups of diseases as secondary diagnoses.

Disorder	Frequency within groups of disorders	Overall frequency in tested population
Endocrine glands disorders		
Hyperlipoproteinemia	7/10 (70%)	7/239 (2.9%)
Nervous system disorders		
Epilepsy	7/10 (70%)	7/239 (2.9%)
Cardiovascular system diseases		
Arterial hypertension	64/150 (42.7%)	64/239 (26.8%)
Coronary disease	30/150 (20%)	30/239 (12.5%)
Hypertensive heart condition	29/150 (19.3%)	29/239 (12.1%)
Digestive system disorders		
Ulcer	8/16 (50%)	8/239 (3.3%)

Disorder	Frequency within groups of disorders	Overall frequency in tested population
Gastritis	4/16 (25%%)	4/239 (1.6%)
Musculoskeletal system disorders		
Back pain	7/18 (38.9%)	7/239 (2.9%)
Spondylosis	5/18 (27.8%)	5/239 (2.1%)

The tertiary diagnosis was established for 94 out of 730 (12.9%) patients. Again cardiovascular diseases were the most frequent and have been diagnosed in 54 (57.4%) cases, while musculoskeletal and respiratory system disorders were registered in 16 (17%) and 10 (10.6%) cases respectively. Table 3 shows the occurrence frequency of the most heavily represented disorders as the third most important diagnosis within specific groups of disorders.

Table 3. Occurrence frequencies of the most heavily represented diseases and disorders within specific groups of diseases as tertiary diagnoses.

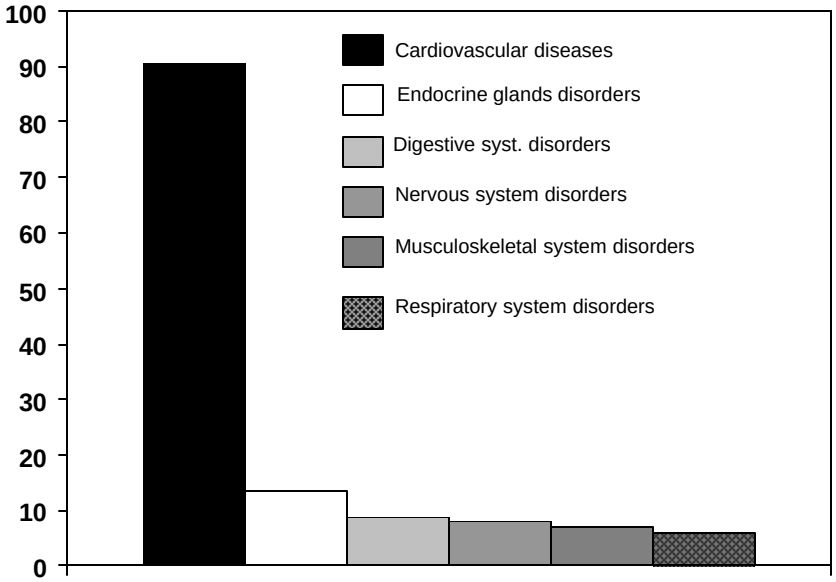
Disorder	Frequency within groups of disorders	Overall frequency in tested population
Endocrine glands disorders		
Hyperlipoproteinemia	3/3 (100%)	3/94 (2.9%)
Cardiovascular system diseases		
Arterial hypertension	5/54 (9.2%)	5/94 (5.3%)
Coronary disease	14/54 (25.9%)	14/94 (14.%)
Hypertensive heart condition	5/54 (9.2%)	5/94 (5.3%)
Musculoskeletal system disorders		
Back pain	5/16 (31.3%)	5/94 (5.3%)

Cumulatively, the cardiovascular disorders, as on of the three most important diagnoses, appeared in 664 out of 730 (90.6%) patients, endocrine glands disorders in 99 of 730 (13.6%), digestive system disorders in 63 of 730 (8.6%), nervous system disorders in 59 of 730 (8.1%), musculoskeletal system disorders in 52 of 730 (7.1%) cases and respiratory system disorders in 44 of 730 patients (6%) (Picture 1).

DISCUSSION

Our results show that the cardiovascular system disorders, as well as endocrine gland disorders, are registered with a significant number of torture victims who come to seek medical assistance. This frequency by far exceeds the incidence of such diseases within the general population, as well as within the population coming to seek physician's help for various health problems (Braunwald, 1994). Unfortunately, while reviewing the available

literature we did not find studies dealing with this set of issues and we are therefore unable to put the findings of our research in the context of other studies. Most of the available studies deal with the issue of somatic disorders of American Vietnam veterans who suffered from the posttraumatic stress disorder, as well as of torture victims in other conflicts throughout the world, so that there results cannot be transferred to the population we have examined for sociological and cultural reasons. Consequently we have focused our following discussion on mechanisms that could lead to somatic disorders in torture victims, as well as on problems identified in the course of our work, together with recommendations on how they could be resolved.



Picture 1. Cumulative overview of incidence of the most frequent somatic disorders in torture victims

POSSIBLE MECHANISMS OF HOW SOMATIC DISORDERS APPEAR

It is not entirely clear by what mechanism the torture experienced leads to the development of somatic disorders. However, it is known that the physiological response to stress includes the activation of the autonomic nervous system, predominantly of sympatheticus, as well as the axis of hypothalamus - pituitary gland - adrenal cortex (Haynes et al., 1991). It is considered that the activation of the autonomic nervous system is caused by the hypothalamus through signals coming from the cortical and sub cortical structures of the brain. This activation is short-term, as well as the maximal impact of its effects that are

realised mainly through adrenalin and noradrenalin. However, it has been shown that in the long period after the experienced stress trauma victims could have increased levels of catecholamine in their urine (Yehuda et al., 1994), which indicates that the activation of adrenergic system can be long-term. This is also corroborated by the fact that patients with posttraumatic stress disorder have been diagnosed with increased cholesterol levels, low-density lipoproteins and triglyceride, as well as with decreased values of high-density lipoproteins in comparison with the control group (Kagan, Leskin, Haas, Wilkins & Foy, 1999), which is most probably the consequence of activation of noradrenergic system.

On the other hand, the hypothalamus also causes a misbalance in the secretion of adrenocorticotrophine (ACTH) from the pituitary gland, which in turn leads to a misbalance in secretion of cortisol from the adrenal cortex. This mechanism is activated more slowly, but its effects last for a much longer period (Andreassi, 1989). It seems that the very nature of the stressor determines which of these two mechanisms would be dominant (Gannon & Pardie, 1989). In the case of prolonged stress, there is a disturbance in the concentration of circulating catecholamines, an increased secretion of ACTH and consequent increase of cortisol concentration in the plasma (Burchfield, 1979). It also seems that the concentration of cortisol in plasma is what best depicts the psychological significance and size of stress, since it has been shown that higher concentration of cortisol was found in patients who have experienced a powerful and long lasting stress (Dienstbier, 1989).

The dysfunction in homeostasis of thyroid hormones can play a very important role in the development of somatic disorders. It has been shown that Vietnam veterans, unlike the control group, also had increased mean serum values of overall thyroxin, thyroxin-tying globulin, total and free triiodothyronine, as well as a disrupted balance between thyroxin and triiodothyronine, whereas the values of thyreostimulating hormone were within referential limits (Mason et al., 1994; 1996).

It has been firmly proven that the very nature of the experienced stress influences the type and severity of psychological and pathophysiological changes in concrete patients. It is believed that a particularly adverse effect is produced by stressors that last long or are repetitive, followed by stressors that appear unexpectedly and cannot be controlled (Feldman & Brown 1976). It is clear that the degree of neuroendocrine activation will depend on individual characteristic of each patient, such as age, gender, ethnicity, simultaneous exposure to other stressors, as well as previous physical and psychic health (Keane et al., 1998; Fleming et al., 1987; Melamed 1987).

We can only speculate about the possible mechanisms of increased incidence of somatic disorders in torture victims included in our research. It is probable that the increased incidence of cardiovascular and endocrine glands diseases could at least partly be ascribed to the above-mentioned mechanisms. Unfortunately, due to technical reasons we were unable to measure the concentration of cortisol in plasma of our patients. Frequent occurrence of other disorders, such as the musculoskeletal diseases, could probably be ascribed to the ill treatment they had been subjected to.

IDENTIFIED PROBLEMS AND RECOMMENDATIONS ON HOW TO RESOLVE THEM

Given that psychic discomforts of many of these patients have triggered the occurrence of somatic disorders, it is clear that close attention should be paid to psychological counselling and, where needed, parallel psychiatric treatment of the patient. It seems that public health services have not yet fully grasped this set of problems, and it is therefore necessary to organise additional training and education of health staff dealing with torture victims in the course of their everyday work.

In terms of accommodation, these patients mostly reside in refugee collective centres, where the housing and nutrition conditions are usually inadequate. Resolving these problems would greatly contribute to the reduction of morbidity and ultimately also the mortality of this population. Given that these issues are practically an exclusive responsibility of the state, the relevant institutions should be informed about this aspect of the overall problem.

It has been observed that CRTV clients have a relatively easy access to primary health care. The problem arises when additional diagnostic procedures are needed, since they involve long waiting in the secondary and tertiary health institutions, as well as significant cost to the patient. This problem is particularly evident in patients with cardiovascular diseases, for whom the unnecessary waiting could have fatal consequences. It seems that organising additional examinations outside the public health care system could be a successful way of resolving this problem.

Obtaining prescribed medication is probably the most difficult problem for these patients. Drugs prescribed are usually not on the so-called positive list, so they need to be paid for, which constitutes an unbearable financial burden for this population. Consequently, these patients often take their medication irregularly and thereby further complicate their already serious health condition. Baring in mind the low educational level of these patients, we should insist on health awareness raising and explaining in detail the significance of modifying risk factors and the necessity of regular consumption of medication.

CONCLUSION

Client of the Centre for Rehabilitation of Torture Victims represent a population in high risk for developing somatic disorders. Most frequent diseases are those of the cardiovascular system and endocrine glands.

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