

Psychiatric disturbances after head-brain injury - selected problems of rehabilitation and disability benefit rulings

Zaburzenia psychiczne po urazach czaszkowo-mózgowych – wybrane problemy rehabilitacji i orzecznictwa

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Key words

head-brain injury, psychiatric disturbances, disease outcome

Summary

Head-brain injuries are a complicated and multidimensional problem, which include acute and chronic therapy as well as varied aspects of rehabilitation. Patient treatment after head-brain injury requires co-operation between physicians of various specialties, as well as psychologists and physiotherapists. A patient's treatment outcome depends on many factors, with some enhancing and others impeding the rehabilitation process. A knowledge of these factors helps one to optimize the whole therapy process as well as to prevent its unfavorable course. The paper describes several neuro-psychiatric aspects of head injuries – connected particularly with diagnostics as well as disability benefit rulings. Every patient to undergo rehabilitation requires diagnostic verification – particularly a 'difficult' patient with complex dysfunctions including neurogenic ones. The revision requires sometimes even the fact of the occurrence of a head-brain injury or its primary intensity. The absence of a head injury or mild concussion in principle cannot result in future in a severe psychoorganic brain syndrome. The diagnostic incoherencies relating to the results of additional investigations (psychological tests, MRI and CT of the brain) in outcome states and their influence on disability benefit rulings were discussed. The size of the structural changes of nerve brain tissue at times does not correspond with the intensity of clinical symptoms. For example, the valuation of possible intellectual deficits seems to be more important than a confirming of the organic substrate. The value of patient motivation that influences positively the processes of rehabilitation and healing, or that at times determines merely those activities for the obtainment of disability benefits, for example, were emphasised.

Słowa kluczowe

urazy czaszkowo-mózgowe, zaburzenia psychiczne, zejście

Streszczenie

Urazy czaszkowo-mózgowe są skomplikowanym i wielowymiarowym zagadnieniem obejmującym ostrą i przewlekłą terapię oraz różnorodne aspekty rehabilitacyjne. Prowadzenie pacjenta po urazie czaszkowo-mózgowym wymaga współdziałania lekarzy różnych specjalności, psychologów, rehabilitantów i innych. Końcowy stan pacjenta zależy od wielu czynników, z których jedne sprzyjają, a inne utrudniają proces rehabilitacji. Wiedza o tych czynnikach pozwala na optymalizację całego procesu dochodzenia przez pacjenta do zdrowia oraz na zapobieżenie niekorzystnym przebiegom. Praca omawia szereg aspektów neuro-psychiatrycznych urazów głowy - wiążących się szczególnie z diagnostyką oraz orzecznictwem. Każdy pacjent poddawany rehabilitacji wymaga weryfikacji rozpoznania - zwłaszcza pacjent „trudny” ze złożonymi dysfunkcjami, w tym neurogennymi. Niekiedy weryfikacji musi być poddany sam fakt przebycia urazu głowy lub jego pierwotne nasilenie. Brak urazu głowy lub łagodne uderzenie głowy zasadniczo nie może bowiem skutkować w przyszłości ciężkim zespołem psychoorganicznym. Omówione zostały niespójności diagnostyczne dotyczące wyników badań dodatkowych (badania psychologiczne, badania neuroobrazowe) u chorych w końcowym okresie leczenia i ich wpływu na orzecznictwo rentowe. Niekiedy rozległość zmian strukturalnych w obrębie tkanki nerwowej mózgu nie koresponduje z nasileniem zaburzeń klinicznych. Z badań psychologicznych większą rolę zdaje się odgrywać ocena ewentualnych deficytów intelektualnych, niż przykładowo potwierdzanie podłoża organicznego. Podkreślone zostało znaczenie motywacji pacjenta, która wpływa niekiedy pozytywnie na procesy rehabilitacji i zdrowienia, lub determinuje jedynie aktywności mające na celu uzyskanie np. świadczeń rentowych.

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Head-brain injuries that are the result of the interaction of non-physiological mechanical forces in the area of the human head are, from the therapeutic or rehabilitation point of view not totally a disease unit of clinical significance, such significances can be had only by the effects or somatic and psychiatric complications (chiefly neurological) of a past injury.

Various circumstances and factors determine whether an injury to the head can be evaluated as light/ trivial/ banal or whether as serious/ severe. An injury of the first type which does not leave behind it any somatic or psychic effects does not usually require any treatment or rehabilitation. Control tests may be performed with the aim of making sure or confirming whether no measurable effects on health had occurred. Injuries of the second type require at times treatment even operational in nature, they result in a series of complications and in organ damage as well as often requiring the undertaking of various forms of rehabilitation¹.

The neurological and psychiatric effects usually mutually interact with each other – involving the process of therapy and rehabilitation. And so post-injury psychic disturbances are difficult to treat and rehabilitate with the coexistence of, for example, epilepsy, limitations in motor efficiency or specific neuropsychological disturbances (aphasia, apraxia, agnosia). More difficult in the process of therapy and rehabilitation is, in turn, a patient with post-injury epilepsy for whom there exist additionally disturbances of a psychiatric nature^{2,3}.

Besides the problems broached by Hese and Opara⁴ in the work entitled ‘Psychic disturbances following head-brain injuries are able to make the rehabilitation process more difficult’ it is worth presenting a few other related questions.

The actual suffering of head injury

Clinical certified practice shows that reasonably frequently there occurs a situation involving the raising of existence in a patient of post-injury psychological disturbances during

the simultaneous lack of clear confirmation of a head injury occurring. For it sometimes occurs that a detailed analysis of the post-accident medical documentation does not confirm that during, for example, a motor accident there occurred a head injury and that there occurred ‘only’ injuries to the limbs, the chest or the stomach. However the medical certificates issued at a later date as well as the medical documentation conducted ‘widen’ to some degree the range of injuries sustained in the course of the accident – still about the region of the head. Of course after an accident where there were no head injuries – there is the possibility of psychic activity disturbances occurring in the form of severe or chronic post-injury stress, depressive or fear disturbances, but still not cognitive post-injury disturbances, organic amnesic disturbances (although already functional neurotic/ hysterical amnesia) or post-injury stupefaction, or also the state earlier referred to by the terms ‘cerebrasthenia’ or ‘encephalopathy’^{5,6}.

It needs to be clearly raised that a post-accident loss of consciousness does not always have to be confirmation of the occurrence of a head injury – and this with concussion. Up until the loss of consciousness (fainting) this may lead to a shock (e.g. hypovolaemic, hormonal, cardiogenic) or an insensive pain – brought about, for example, by a broken limb etc.⁷⁻⁹. The more severely or extensively the injury affects other parts beside the head, the greater is the likelihood of shock from the loss of consciousness. One can not forget, however, that the situation of severe shock or a longer stopping of circulation may lead to disturbances of brain circulation with the subsequent anoxia and damage to the brain’s nerve tissue. Then, despite the fact that the injury had not originally affected the head, it could potentially lead to secondary damage in the area of the brain with the subsequent organic and functional dysfunctions¹⁰⁻¹².

The head is such an important organ for matters of life that very damage to the head with suspected concussion is usually a factor for post-accident hospitalisation with observation of the patient and the conducting

of additional tests. If therefore surgeons, orthopaedists, neuro-surgeons who as the first have had contact with a given patient have not confirmed initially the fact of a head injury directly after an accident happening, there is no possibility to detect that injury at a later period and to show its remote effects. In the day of modern medicine the oversight of a (serious) head injury is very unlikely¹³. Other authors have proved that in Polish reality cases of oversight in various injuries including the momentary loss of consciousness are not that rare¹⁴⁻¹⁶.

Not always possible or necessary is the cause-result connection confirmed after a head injury of the features of limited damage of central nervous system (psychological tests, neuroimaging tests) with the injury that had recently taken place. Both for diagnostic, therapeutic, rehabilitative, as well as benefit ruling aims it follows to consider the earlier origin of the claimed changes (earlier injuries, post-inflammatory, toxic, vascular, derived still from around the parturient period, etc.). In another case it can jeopardise faulty interpreted principles ‘post hoc ergo propter hoc’ i.e. a mistaken argumentation of the causative relationships out of simple time succession. For there exists a certain probability that the features confirmed after a head injury of limited damage of central nervous system are the result of some earlier events and the latest head injury simply enhance them or caused them to reach a clinical level¹⁷.

Diagnostic incoherences

An often met phenomenon is the lack of coherence in clinical symptoms with the results of additional tests. The most important element for the goals of clinical-therapeutic goals is the phenomenology of symptoms and their intensification relative to which specific treatment procedures are undertaken. In the prognosis, rehabilitation as well as benefit ruling stage a significant though not fundamental role is played by the results of additional tests, in accordance with the simple principle that the greater the post-injury changes are i.e. more dis-

tant, then the worse is the prognosis in relation to the effectiveness of rehabilitation, but the greater is the likelihood of obtaining a greater benefit ruling for the given patient. The ascribing of a key role to the results of additional tests is not totally correct.

The incoherence raised above depends, for example, on the fact that clinically there may be observed an intensification of the symptoms of demented syndrome when at the same time the neuro-imaging tests do not display a trace of dystrophy of the nerve tissue of the brain – cortical or subcortical of a focal or diffuse nature, foci of malacia, porencephaly, foci of parenchymatous bleeding, or even of traces following epidural/subdural haematoma, or of hygroma, etc.¹⁸.

There equally occur reverse situations where fairly distant changes in the brain area do not manifest themselves in intensified clinical symptoms. For treatment and rehabilitation purposes this situation is obviously fairly favourable – even if we suppose that sooner or later compensatory mechanisms will experience enervation and then result in a rapid and significant deterioration. The period of relatively correct functioning with slight intensification of dysfunction or disturbances on the part of generally understood psychic health is worth utilising for the intensive rehabilitation of a patient, for a return to employment, or equally to prepare him for possible deterioration. The opinion given for insurance and compensation purposes must take into consideration the exact current state of a patient's health together with a description of the changes in additional tests. With regard to a situation whereby the benefit ruling opinion is usually given within the aspect of the current health of a patient – the necessity to include the prognosis element appears to be fairly controversial. For there is no possibility to list all the potentially possible deviations from the present state, while their presence in the benefit ruling or in an opinion could either consciously or subconsciously in some way induce the appearance within the patient of subsequent ailments or subject complaints. The eventual decompensation or deterioration in the future state of

health should simply be verified by a subsequent control test/ check-up. The benefit ruling incorporating the current state of health cannot be set out for an increase i.e. to cover any potentially undesirable outcomes in the future, outcomes that do not necessarily by definition have to occur. It is not that rare for a definite ruling significance to be attributed to active psychic disturbances (PTSD syndrome, adaptational disturbance, depression-anxiety disturbances) – on the basis of maybe a single visit to a psychiatrist. The ruling significance of such diagnoses is negatively verified at a later stage when it occurs that the patient following the single visit mentioned, and the issuing of the ad hoc medical certificate, does not continue psychiatric treatment.

For the aims of certificate issue – it follows to assess the psychic state of the patient in an appropriate proportion as well as taking into consideration the results of additional tests. When one takes into consideration a ruling for compensatory reasons then obviously the extent of brain damage is going to have a significance in the ruling, including the current functional state of the patient. Yet when a serious head injury has resulted in even a significant degree of brain damage and yet there has not developed epilepsy or other neuropsychological disturbances, it has not led to analogously deep psychodegradation (a lowering of the level of intellectual ability), or there have not occurred sufficiently intensified disturbances to personality and behaviour (if only confirmed through infringements of the law) or disturbance in mood, emotion, depression, anxiety etc. (in connection with which the patient undergoes psychiatric treatment) the patient may experience marked difficulties in obtaining the benefit rulings they may attempt to apply for¹⁹.

A certain problem sometimes is the confirming of a situation when later neuroimaging tests turn out to be 'better' than earlier ones (e.g. earlier tests talked of brain dystrophy while the other do not confirm this). In as far as it is easy for one to imagine an improvement in the range of clinical disturbances – it is more difficult to accept the possibility of a remission of

changes e.g. atrophic in neuroimaging tests. For it does not seem possible through any known methods of therapy or rehabilitation to bring about neurogenesis with the supplement of structural deficits occurring as a result of injury in clinical conditions. Improvement could be obtained here if during the description of the TK or MRI pictures there was always taken into consideration so-called decade norms (defining the relevant internal skull relations in the subsequent decades of a person's life, i.e. taking into consideration the natural, physiological brain involution) as well as in making use of more objectivised methods of evaluation (the calculation of indicators of the sort: coefficients of cell size, the Huckmann number, the cella-media index, the size of temporal horns and the Sylvius fissure, the dimension of the previous proper hippocampus, etc.)^{20,21}.

In the way that sometimes there is a lack of coherence between the results of neuroimaging tests and the clinical state – these self same relations can be equally ascertained between neuroimaging tests and neuropsychological tests. Sometimes numerous structural changes result in small dysfunctions – measured for example by a triad of organic tests or small deficits in the scope of cognitive functions (or an absence of measurable deficits). Sometimes, however, one may identify an opposite situation in the structural changes evaluated as insignificant or their absence – the results of psychological tests are strongly pathological²².

It follows here to emphasise (in considering the points made in the previous paragraph) that neuroimaging research is significantly more objective an instrument for the evaluation of a brain 'organic' than psychological tests. The latter although constituting an invaluable instrument for the evaluation of, for example, intellectual deficit, which cannot be replaced by any other test – are prone to a series of distractors which reduce the clinical value of these tests. These distractors include at least the situational state and attitude of the patient to carrying out the test tasks (motivation, willingness and readiness to solving a test, which may be strengthened as equally weakened at

least by the person – psychologist – conducting the test). The result of this state of affairs the many changes (running to a 20-30 point increase or reduction) may take place between the subsequent control tests of intelligence evaluated by the Wechsler test (saw-shaped course). In as far as it is still theoretically possible in certain conditions for there to be such a significant deterioration of results – the improvement by so many points can not be explained by any forms of therapy or rehabilitation as only the inadequacy of the methodology of the psychological test conducted or its construction as equally the properties of the test itself.

On the other hand, however, something shown by Hese and Opara in their work⁴,- neuroimaging tests are not able to identify the changes and character of micro injuries, the identification of which is limited by, among other things, the resolution of the available techniques of neuroimaging nowadays. This problem, requiring verification in experimental conditions as equally clinical ones, remains, however, the question of to what degree these micro injuries are able to cause micro disturbances of a clinical character (diagnostic, therapeutic, rehabilitative) or certificational. May be in the future the problem of the objectivisation of micro-changes will be solved by the widespread use of neuroimaging tests of the fMRI type.

In relation to rehabilitation the mentioned questions of incoherence between the results of additional tests and the clinical state do not have, as it seems, a great significance. They give rise to a more serious problem in the area of certification. Unfortunately more than once it happens that written out certificates on the state of health indicate the existence in a given patient of clinical disturbances as well as ‘test’ dysfunctions of a (significantly) increased intensification than exist in reality or also increased is the existence in the patient of disturbances which indeed were present – but in the past while at present have almost entirely ceased. This type of ‘deterioration’ is connected, for example, with a situation of lasting compensatory or benefit behaviour, and to a various degree is identified by doctors.

Here it follows to say that results from the norm border in one or two organic tests are not a sufficient factor for the diagnosis of psychoorganic syndrome – in accordance with the former nomenclature. Every post-injury lowering of the abilities of cognitive and intellectual functions may negatively influence the course of treatment and rehabilitation, or it is not always sufficient enough to achieve benefit ruling significance²³.

Post-injury demented or amnesial disturbances – in as far as they correspond with an additional test of neuroimaging (and/or at least one Wechsler test; the evaluation of the depth of psychodegradation by an orientational method – in order not to say ‘by rule of thumb’ – is far from appropriate and is usually encumbered with lots of mistakes) – do not usually require further verification and their confirmation by specialist treatment on the part of a psychiatrist or neurologist. Individuals with this type of disturbances may be equally well treated by a general practitioner or family doctor²⁴.

In turn organic conditioned emotional disturbances, affective (depressive), anxiety – should most certainly remain within the therapy conducted by a psychiatric doctor.

The consequences of deduced intellectual deficits appear to a certain degree to be dependent on the intellectual ability starting point. Even though this very intellectual deficit constitutes a greater percentage in comparison to the potential pre-injury values – in an individual with a low level of intellectual ability – than is the case in individuals with a higher level. In other words psychodegradation of, for example, 10-15 points of the intelligence quotient reflects more on the general functioning, on the level of organism ability or the future ability for employment in individuals with a higher initial intellectual ability (in a sense with higher education) than lower²⁵.

For purposes of benefit rulings the distribution of the results of individual subscales (functional/ executive and verbal) and the tasks of the Wechsler test are of no greater significance. These results may be used, however, in the process of treatment

and therapy – allowing one to draw attention and to particularly intensively work upon these areas in which there are established greater deficits or disfunctions than in the scope of which the patient has to a distant degree retained abilities and competencies. Results from the particular subscales equally influence the subjective reception and evaluation of the patient. Higher results in the verbal subscale means that a more eloquent (‘talkative’) patient with a better word fluency presents himself much better, giving the impression of being more able and less ill/ disturbed. This same individual possessing an inharmoniously low level in the non-verbal/ functional/ executive subscale may undergo therapy and rehabilitation more weakly and will be less motor able, more awkward in motion, with worse sight-movement control parameters, less able to carry out the earlier learnt motor activities etc.. Different constellations are also possible – with low results in the verbal subscale and higher in the functional subscale. Such individuals will admittedly present themselves as quiet, closed and withdrawn, but may manage quite well with various tasks and executive activities – which in a certain scope may have an influence on the perception of the patient in the therapeutic, rehabilitation or benefit ruling context^{26,27}.

A sure diagnostic-clinical problem is the classification of observed symptoms in a patient. Such post-injury disturbances like – listed by Hese and Opara⁴ – cognitive disturbances, amnesic syndrome or dementia, refer chiefly to the confirmation of the existence of disturbances in cognitive functions – first and foremost: memory and intelligence. These symptoms – even though they have a key character – must not be considered as the only ones in the mentioned disturbance syndromes. Plainly it is obvious that the lack of sufficient control on the part of the cognitive functions must (or also should) appear under the form of emotional disturbances, of mood, behaviour or motor activity. It is difficult to define when these symptoms should be treated or interpreted as still belonging to a diagnosis of dementia, and when they start to al-

Table 1

(Neuro) psychiatric disturbances as a result of accidents and the possible percentage damage to health ascribed to them	
Diagnosis/condition	Percentage of permanent or long-term damage to health
9. Neurological and psychic disturbances organically conditioned (encephalopathy):	
a) dementia or serious behavioural and emotional disturbances preventing independent existence	100
b) encephalopathy with characterological changes depending on the degree	50-70
c) encephalopathy without characterological changes	30
10. Adjustment disorders that are the result of injuries and accidents in which there did not occur lasting damage of central nervous system	
a) fixed neurosis connected with skull-brain injury	5-10
b) the appearance of psychosis as a consequence of severe stress	50-80

ready create another new diagnosis of organic disturbances of personality and behaviour.

A larger number of various symptoms resulting from, though equally connected with the suffering of a head injury, unfavourably influence the process of therapy and further rehabilitation²⁸.

It does not follow to forget that the clinical picture of disturbances is influenced not only by the scope or intensification of post-injury damage to the nerve fibre of the brain but equally the location of the injury – which was the starting point up until earlier of the so-called brain syndromes (syndromes of local brain damage) of topographical classification. The best known are here symptoms of damage to the frontal or temporal lobes. In the first case it leads to the appearance of frontal lobe syndrome characterised by, among other things, a dullness of higher emotionality, drive atrophy, motivation, a weakening of general activity, change in personality, at times the appearance of a euphoric-dysphoric mood and inhibition. In turn temporal lobe syndrome – being the result of damage to the temporal areas of the brain – manifests itself with deep disturbances of the personality with the impairment in decision making, a dull or diminished mood, indifference, hypochondriac complaints, the undertaking of thoughtless actions, dysphoric states etc. The mentioned factors unfavourably influence the process of therapy and rehabilitation, but, however, this does not always find reflection in a more favourable benefit ruling²⁹.

At the end of discussing diagnostic problems it is worth referring to the known appendix (Table 1) to the Polish Ministry of Labour and Social Policy of the 18th of December 2002 in relation to the detailed principles for benefit rulings for permanent or long-term damage to health, the course of action in the establishment of the damage as well as procedure for the payment of one-off compensation (Legal Gazette. No 234, pos. 1974)³⁰. Post-injury psychic disturbances are mentioned in points 9 and 10 of the appendix. It seems that the diagnoses mentioned in the appendix – particularly in the (neuro)psychiatric area should be replaced by a more up-to-date set of terminology based on the ICD-10 classification. Point 9 seems to be here more developed – although one may wonder if there can exist encephalopathies without characterological changes.

Also point 10 of this ministerial regulation has a rather underdeveloped and not very coherent character, this referring *nomine verbis* to: adaptational disturbances that are the consequences of injuries and accidents in which there occurred permanent damage of central nervous system. The main doubt concerns the use of the term: injury. For it is not known whether this refers to an injury to the head or to the body – in the strict understanding of this word, or whether in the wider understanding of psychic injury, as usually is the consequence of involvement in a vehicle accident or that accompanies it.

If one were to take into consideration the second part of the title resolution for point 10 ('in which it did not result in permanent injuries of central nervous system') the term 'injury' should be understood in the strict meaning i.e. a head injury – here without injury to the brain with its subsequent damage. For head injuries with brain damage (of the central nervous system) are classified in the previous point 9. However in point 10b there is given the diagnosis 'the manifestation of psychosis as a result of intense stress' which does not refer to somatic injury (of the head) but to psychic injury which to a certain degree corresponds to the term stress. This leaves still point 10 corresponding to the diagnosis: 'recorded neurosis connected with head-brain injury'. To a further degree this point could correspond to the former diagnosis of post-injury cerebri-asthenia, neurasthenic disturbances or equally pseudo-neurasthenic disturbances.

The cited list does not give a straight answer to the certification place for this type of disturbance as adaptive disturbances – in the understanding of disturbances of a nervous nature, which would be the consequence of psychic injury i.e. would not be linked to any head injury (skull-brain) but 'the neurosis connected with an accident (post-accident)'. They should not formally be qualified in point 10a – for this requires the occurrence of a head-brain injury while it equally does not fit to point 10b – for normally neurosis is a disturbance that is quantita-

tively and qualitatively 'weaker' than psychosis. Earlier disturbances of this type were defined by the term syndrome of subjective subject complaints as well as also compensation neurosis (revindication neurosis), at present they are classified as – at least in a certain scope – as posttraumatic stress disorder (PTSD; here the term trauma refers to a psychic injury and not to a somatic one including the head). This is in a general abbreviation a syndrome of unspecified emotional disturbances of a neuroathenic-depressive-anxiety-dysphoric nature – causally bound with participation in an accident (without the necessity of experiencing any somatic injury whatsoever). In the presenting of a PTSD diagnosis it is required that the accident that occurred is an occurrence or stress situation of an exceptionally threatening or catastrophic nature which could cause exceptionally difficult experiences ('penetratively sensed suffering') almost in everyone (diagnostic criterion A). Hence a banal traffic collision, falling from a chair etc. can not be a factor for experiencing the level of extreme stress that can be triggered off by a disturbance of a PTSD type. Undoubtedly – for benefit ruling purposes – it would follow to reject the theory of individual proneness to stress and injury (in the psychological meaning of the word) known in psychiatry³¹. According to them even a trivial stress situation can be for certain individuals a serious stressor releasing intensified emotional reactions. This form of approach could lead to substantial abuse of the benefiting ruling system. It is also an unknown as to how to classify, and what benefit ruling to ascribe to adaptive disturbances which admittedly are not clearly connected with the experience of an accident by the patient, but they are certain of the reaction at the loss of life by a person close to the patient.

It is important to draw attention to the use in point 10a of the term 'recorded/registered' which is not to be found either in the diagnosis of post-injury psychosis (10b) or in dementia (9b) or in encephalopathy (9b). It appears that the legislator has approached the matter from a prem-

ise regarding the necessity for a certain confirmation of the maintenance in the victim of protracted and burdensome post-injury nervous disorders; at a guess such a validation does not demand the mentioned psychosis, dementia or encephalopathy. One may wonder as to what constitutes the 'recording' of post-accident nervous disturbances and the answer which appears: 'regular psychiatric treatment'. It is impossible to imagine that an individual invoking compensatory proceedings for a disturbance of the PTSD type – is not receiving psychiatric treatment or that the whole of treatment was based on a single one-off visit with the aim of obtaining an ad hoc drawn up certificate with a diagnosis of post-injury stress disturbances. One may agree entirely with Heitzman's postulate that for certification purposes PTSD diagnosis (regardless of the factors bringing it about) can be only accepted after a year of intensive treatment, treatment that should cover both pharmacotherapy (anti-depressant and sleep-inducing drugs, sedatives) as equally psychotherapy (a condition difficult to fulfil in the majority of cases)³².

In connection with the frequently drawn out period in benefit claim proceedings (the insuring institute/ZUS (Polish National Insurance) – the relevant civil court) it is unfortunately sometimes difficult to establish to what extent the neurotic disturbances in the patient are the result of an accident and to what extent they are maintained by the very process of applying for compensation. Here there appears a subsequent certification problem involving the fact that in the case of functional psychiatric disturbances it is difficult to expect their intensity to be maintained in the patient at the same level for the entire period. And so intense post-injury stress can bring about psychotic disturbances which may be brought under control within the course of several weeks after which the patient 'only' has significantly less intensified affective/emotional (neurotic) disturbances. On the one hand – from the certification point of view – obviously psychotic disturbances have a greater significance than neurotic disturbances and they

should be, as a rule, taken into consideration in calculating the damage to health. On the other hand though – in a situation when psychosis was suffered by a patient 2-3 years earlier with no recurrences – then the currently maintained affective disturbances and not diagnosis of psychosis (for its symptoms) are long not present in the patient) may be a factor in ruling as to the long term damage to health. The significant ruling differences between psychic disturbances and somatic become extremely clear on the given example, in the case of which post-accident and post-injury damage to health have a decisively longer term, if not permanent, character.

Other aspects of the long-term maintaining of post-accident disturbances of a psychic nature are dealt with in the following section.

Patient motivation and other factors connected with it

In the case of certain skull-brain injuries the damage sustained is so great that they portend ill – for both intensive therapy as equally rehabilitation are here of little effect. In turn, in other patients, treatment-rehabilitation activities can even culminate in spectacular successes. Research confirms that a good prognostic factor is the young age of a patient with significantly preserved plastic and compensatory possibilities in the brain's nerve tissue – allowing for the resorption of even fairly significant results of a sustained injury with (at least partial) weakening of the intensification of various deficits – chiefly neurological though in part also mental^{33,34}.

A series of factors may have an influence on the course of treatment and the process of patient rehabilitation after skull-brain injuries, which are not totally connected with the injury itself or also the damages to health experienced as a result of the injury. Of course these factors play a greater role in a situation where the real post-injury health damages are small than have a significant intensification and to a large degree determine the patient's correct functioning.

One of these factors seems to be the patient's own motivation and the

factors influencing this motivation. An important element seems to be the possibility and desire to remain in employment. A patient with the motivation and possibility to return to work will usually be quicker in returning to health following an accident; symptoms of post-injury stress or of organic mood disturbances or depression-anxiety disturbances will occur more rarely in such a patient³⁵.

In turn in a patient with a different attitude and possibilities the functional symptoms will be maintained for longer – including the fact that they will be used in attempts for disability benefit or compensation payments and the longest possible maintaining of this state of drawing benefit. The secondary financial benefits from these sorts of benefit rulings will be greater and stronger than the pro-health attempts of doctors, psychologists and physiotherapists. Health or an improvement in the state of health for this type of patient is equivalent to a loss, or a reduction in disability benefits; something a patient has no desire for and usually is unable to afford to happen. Hence for years and decades – following the suffering of an injury to the head (which was not in fact that serious and did not result in significant organic damage) the patient simply ‘must’ be ill and declare symptoms that are chiefly functional in nature in order to ‘prove’ the maintaining of post-accident disturbances on the part of a generally understood state of mental health^{36,37}.

Therapeutic work on pro-health motivation in this type of patient appears to have little effect. Besides, many doctors are unable – in terms of both therapy and rehabilitation as equally benefit certification – to improve the state of health for their patients.

More than once it has occurred that within the old disability benefit system (where invalid groups were decided upon) individuals who had experienced relatively minor injuries to the head remained for long periods on disability benefit – despite the lack of obvious neurological disturbances (epilepsy or even the traits of EEG fits, features of focal central damage to the nervous system etc.), through insignificant features of so-

matic disturbances only in psychological tests – or without features of psychodegradation, dementia or memory disturbances, as well as severing contact with a psychiatric doctor and without maintaining intensified mental functional disturbances. Following the change in the benefit system to an ‘inability to work’ these individuals sooner or later lost their disability benefit – revealing at the time situationally conditioned stress or adaptive disturbances in the form of depression-anxiety disturbances. These disturbances cannot be, however, connected with a head injury suffered years earlier – something that doctors managing patients of this type try to do³⁸.

Furthermore factors which do not necessarily have to be connected with any head injury influence the form and intensity of functional psychic disturbances. The appearance of, for example, depression-anxiety or stress disturbances may be conditioned by psychic trauma in the form of the loss of someone close in the same vehicle accident. Another factor releasing post-injury disturbances may be deformation of the body (chiefly the face; defects in the covering of the skull), limb amputation, intense somatic pain symptoms, long term hospitalisation and others. The factors mentioned influence exceptionally unfavourably the effectiveness of the therapy and rehabilitation conducted.

One must not equally forget that an injury suffered to the head may intensify earlier existing mental disturbances in the patient, which previously had merely, for example, a functional basis. Post-injury organic damage to the brain’s nerve tissue usually increases resistance to treatment or is a cause of paradoxical reactions to the pharmacological treatment conducted. The skull-brain injury itself is sometimes the direct result of mental disturbances, here: the effect of a suicide attempt (luckily this situation occurs fairly rarely – as a result of the preference amongst mentally ill patients of other means of committing suicide than jumping from heights or throwing themselves under vehicles or trains as well as the rather high death rate for this type of suicide attempt)³⁹.

In summing up one may state that mental disturbances that are the result of suffered skull-brain injuries have a varied clinical form and intensity. Usually they involve the process of therapy and rehabilitation – demanding the application of a complex approach which should cover pharmacotherapy, psycho- and sociotherapy elements, as well as other methods of psycho-rehabilitation. The effectiveness of the therapy undertaken is conditioned by many factors – chiefly by the extent of the post-injury damage to the brain as well as a series of other factors of an external nature.

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