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Onset of Psychotraumatic Reactions

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ABSTRACT: This study was planned to examine the onset of the posttraumatic psychiatric reaction. Two hundred two injured persons were examined during two summers (1978 and 1979) at the Salzburg Accident Hospital, Austria. Eighty-six of 110 persons with posttraumatic psychiatric reactions developed their symptoms two weeks to two months after the injury. Ninety-two of the 110 showed irritability as the initial symptom.

KEY WORDS: psychiatry, posttraumatic reaction, human behavior

There is a continuing need for research into posttraumatic psychiatric reactions (psychotraumatic reactions) because of the increasing numbers of injuries, both industrial[2] and nonindustrial,[3] and the vast expenditures entailed in both treatment and legal/social resolution of these matters. In the United States, and particularly in California, there has been substantial advance in the development of legal programs to compensate injured persons, especially the industrially injured. This, as anticipated, has not been advanced without resistance. However, the establishment of specific medical institutions and training programs has not followed the clear and massive statistical evidence of the need for special attention to the problems of trauma.

Although it is my understanding that there is a nascent movement in the United States to change the current method of care for the injured, special consideration for trauma has been present in Europe and other parts of the world for many years. With the founding of the first hospital designed exclusively for the care of the injured, Austria became the first nation to recognize the importance of training physicians in the specialty of trauma. The first hospital section devoted to treatment of accidents was established by Dr. Lorenz Boehler in Vienna in about 1921; Dr. Boehler became director and chief of the section in 1924. It is of interest to note that Dr. Boehler had some training at the May Clinic (1914). In 1936, Vienna had the first hospital entirely dedicated to the care of injured persons. The movement to establish such accident hospitals had a powerful impetus from the Austrian Workers Insurance Administration, with these hospitals being established initially as Workers Accident Hospitals. The general usefulness of these excellent facilities

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[2]The California Occupational Safety and Health Administration statistics show an increase in industrial accidents from 228 600 in 1972 to 294 991 in 1976.

[3]The National Transportation Safety Board statistics show an increase in fatalities in automobile accidents from 49 502 in 1975 to 55 083 in 1978.

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and highly trained personnel rapidly became evident, and the chain of accident hospitals scattered throughout Austria came to provide care for all manner of injuries, including those from work, auto, farm, and sport activities.

As noted in a previous paper [*1*], these hospitals constitute virtual laboratories for the study of posttraumatic reactions, particularly posttraumatic psychiatric reactions to injury. The number of patients treated in these accident hospitals is so great that very little attention is spent on the possible psychiatric aspects associated with individual injuries. Interestingly enough, Dr. Boehler warned others, in his 1929 edition of the *Technic for Treating Fractures* (*Die Technik der Knochenbruchbehandlung*), "not to forget the traumatic neurosis." In Austria, the injured person very rarely has contact with an attorney regarding his injury. There is reasonably strong evidence to indicate that posttraumatic psychiatric reactions occur independently of legal "influence" [*1*].

The purpose of this study is to begin a consideration of whether there is a "natural history" of the posttraumatic psychiatric reaction, with this paper devoted to examining the *onset* of the posttraumatic reaction or posttraumatic syndrome. The American Psychiatric Association (APA) in the new *Diagnostic and Statistical Manual* (DSM-III) has sanctioned the validity of this diagnosis as the Post-Traumatic Stress Disorder (Acute), 308.30, and (Chronic), 309.81. Although the diagnosis of posttraumatic psychiatric reactions in whatever terms described was known to the practicing psychiatrist for many years, the current classification of that diagnosis by the APA has particular medicolegal impact, making more cogent the study of this condition.

There appears to be a fairly consistent time period of between two weeks and two months between the injury and the onset of the initial symptoms of the posttraumatic reaction. The symptom most usually connected with the onset of the reaction is rage, appearing most commonly in the form of irritability [*2*]. The primary appearance of this symptom is supported by the data presented below. Horowitz [*3*] in "State 1" of his "Stress Response Syndrome" noted that the early phase of response as "initial realization or outcry" was quite consistent.

It is important to distinguish between the initial "shock phase" immediately following injury and the onset of the posttraumatic reaction to that injury. Wolfenstein [*4*], for example, refers to the initial impact as resembling depression. This is somewhat close to what Lifton [*5*] noted as "psychic numbing." The role of anger (response to terror following injury) was pointed out in the treatment of a four-year-old boy following injury [*6*]. Such rage reactions at onset are very "real," as reported, for example, by family members, and contradict further the possible reference to malingering as being a significant factor in this condition [*7*]. These reactions have certainly been supported by my own studies [*8*].

Another manifestation of disguised rage introducing the onset of the posttraumatic reaction may be protest against separation in the form of "drive to survive" and "determination to re-join families," for example, on the part of survivors of shipwrecks [*9*]. Clear evidence of the underlying rage in these positive tendencies emerged in response to a "pessimist" who denied the reasonableness of these "drives" in the face of apparently hopeless reality. Weinstein [*10*] points to the injury as being part of a "disability process" without acknowledging the specific nature of the after-effects of the injury as distinct from the hypothesis of an "unacceptable disability" (presumed to exist before injury) becoming through the injury "acceptable." Weinstein's paper [*10*] is apparently an attempt to revise the work of Hirschfeld and Behan (1963 and 1966) and provides little clinical experience to support the Hirschfeld-Behan theory that an "accident" is part of a "process" suggesting the "proneness" and "almost inevitability" of the "accident."

Method and Results

The Salzburg Accident Hospital has 156 beds. It was opened in October 1953 and

during the first full year of its functioning (1954) there were 2992 inpatients and 6636 outpatients. In 1976 there were 4178 inpatients and 23 531 outpatients. Of the 4178 inpatients in 1976, 1279 were industrially injured; of the 23 531 outpatients, 6823 were industrially injured. The Austrian population of approximately 7 000 000 has about 120 000 industrially injured each year.

During July and August 1978, I examined 104 outpatients and during August to September 1979, 98 outpatients. These persons were all interviewed by me, in their native language; at times I relied on the help of nurses to unravel dialect complexities. Interviews lasted approximately 40 to 45 min. There are generally three or four physicians in the outpatient department, each examining for follow-up care between 100 and 150 patients a day. Injured persons were referred to me for examination without any consideration regarding sex, age, nature of the injury either in terms of type (industrial or nonindustrial) or severity (bruises or amputations), or national origin (some of the workers were Yugoslavian *Gastarbeiter*, or "guest workers"). The only restriction in selection was that the injury had occurred less than one year before my examination. Each of the physicians made referrals to me on the basis of what he considered to be "of interest" without specifying what the "interest" was or on the basis that I appeared not to be busy.

The diagnosis of the full posttraumatic psychiatric reaction was determined by the presence of the following symptoms: irritability, hyperacusis, posttraumatic nightmares, impairment of concentration, difficulties in recall, absentmindedness, social withdrawal, anxiety with or without phobia for the injuring object or associated circumstance, depression, and sexual dysfunction. The diagnosis of a partial posttraumatic psychiatric reaction was based on the presence of two of the first three (primary) symptoms and five of the seven remaining (secondary) symptoms. Questions as to the time of onset of the symptom pattern and the time interval between injury and the development of the symptom patterns were posed directly and confirmed as often as possible by relatives or other observers.

Of the 202 patients interviewed, 92 were industrially and 110 were nonindustrially injured. These figures present a greater proportion of industrially injured in comparison to the total yearly figures, where the ratio (outpatient, 1976) of industrially injured was 6823 to 16 708 nonindustrially injured. The discrepancy was based probably on the fact that mine was a midsummer sample with fewer automobile and no ski injuries to weight the sample since auto injuries, for example, occur towards the beginning and the end of the long vacation periods that prevail in Europe. Of the industrially injured (92), 58 presented with a partial or full posttraumatic psychiatric reaction. Of the nonindustrially injured (110), 52 presented with partial or full posttraumatic psychiatric reactions. The closeness of these figures in this limited sample is a further indication of the validity of the posttraumatic psychiatric reaction occurring independently of the framework in which the injuring event took place. That is, the reactions appeared not to be determined by the general environment in which the accident took place but rather by the specific reaction of the individual to a particular event.

Of the total of 110 partial and full posttraumatic psychiatric reactions (52 nonindustrial and 58 industrial), 86 had their onset within two weeks to two months after the injuring event. Of the 110 posttraumatic psychiatric reactions, 92 had a persistent irritability (rage reaction) as the initial persisting symptom. Of the remaining 18, 10 presented with the initial symptom of posttraumatic nightmare and 8 with intense anxiety. While these figures must be considered as suggestive, they appear substantial enough to warrant further investigation to confirm or negate these findings. In addition, the figures appear to justify the particularly close questioning of injured persons by attorneys, physicians, and forensic science experts during the period from two weeks to two months after injury to determine the possible presence of symptoms "initiating" the constellation of the posttraumatic psychiatric reaction.

Clinical Illustration

Johann, at 56, had been a forest worker for more than 35 years. His character attitudes were stoicism, consistency, dependability, and an honesty that was so deeply part of his being as not to require special recognition, effort, or reinforcement. In the spring of 1978, in a work accident, he suffered mid-humerus amputation of one arm and partial amputation of the hand of the other arm. Earlier history was devoid of any mental difficulty. He was a simple man, unburdened by complexity or misfortune. His three children enjoyed health, stability, and personal satisfaction. Johann and his wife lived out an untroubled destiny. The first two to three weeks after the injury were marked by amazement, distress, and incomprehension. His surgeons were somewhat astounded, however, by his apparent courage and particularly his optimism, which gradually was applied increasingly to goals that were utterly unattainable, such as becoming a forest official, a position to be reached only by difficult examination and "ladder climbing," thoroughly unrealistic for his level of education and age. In six weeks he showed ominous signs of rage reaction, totally unlike his usual stoic, somewhat phlegmatic self. The rage reactions were at times violent, and several family heirlooms were smashed in the course of such affective storms.

Within three months after injury, he presented a full profile of the posttraumatic stress disorder, was found to be totally unemployable, and was sent to a rehabilitation center from which he returned with some pain relief but with chronic psychiatric symptoms seemingly so deeply fixed as to be ineradicable.

Discussion

The diagnostic codification of the APA, papers entailing validation studies [*1*], and the considerable literature on the subject all support the reality and immense medical-economic-legal implications of this entity. Based on long-term follow-up, the psychiatric reaction to injury, studied by me both in Austria and California, emerges as an *adaptive* response, the struggle being to reestablish a primary identity, to reconstruct ego defenses, and to become reintegrated in the community. Selye [*11*] has been the most important authority to set directions in the study of stress, of which the posttraumatic stress disorder is a subgroup. As presented by Selye in the description of the General Adaptation Syndrome, the first phase entails that of "alarm reaction," including an initial shock (with lowered resistance) and then countershock (with activation of defense mechanism). The second phase is that of resistance (with maximized adaptation). With perduring stress or ineffectual defense, a third stage, exhaustion, occurs with dissolution of adaptive efforts. In this important schema of Selye, the posttraumatic stress disorder appears in the countershock and the resistance phase.

The most primitive response to pain, discomfort, and stress is that of irritability (rage). This reaction regarding onset of the posttraumatic reaction has been confirmed apparently by the preliminary statistics described above as well as by dynamic theory. Irritability not only serves as a warning to others to avoid further incursion (refer to Horowitz's discussion [*3*] of intrusion) indicating that ego-incursion, to some extent, has taken place but also reflects an ego struggle to demonstrate retaliatory capacity and thus is in the service of maintaining some level of ego integrity. Further, the irritability suggests regression, as defense, is being employed in the labor of adaptation. The helping physician should not be too zealous in his efforts to extinguish totally this irritability, despite the apparent distress that such irritability inflicts on the injured person and those close to him.

It seems as if, depending on the individual, approximately two weeks to two months after injury is necessary to deal with the initial psychological shock, analogous to the physical alarm-shock phase of Selye [*11*], which is of shorter duration. This early phase

of psychological alarm-shock can be camouflaged by inappropriate euphoria and optimism, entailing denial (for which, read Horowitz [*3*]). This period also appears to be required for painful assimilation of the facts that the unwanted occurrence will not disappear with wishing, prayer, or making a "deal" with one's deity and that intrusion cannot be relieved or removed by extrusion.

Physicians and attorneys interested in the problem of injury reaction, therefore, should devote particular attention to inquiry about irritability during the period from two weeks to two months following injury. Indeed, such irritability may occur earlier or later, but this study points to the expectation that such irritability as an initial symptom of the posttraumatic psychiatric reaction will appear most likely during the time period described. Further, it is to be expected that, in particular instances, other symptoms associated with the posttraumatic psychiatric reaction will appear before irritability. Nevertheless, this study supports the conclusion that irritability is the most frequent harbinger symptom of the posttraumatic psychiatric reaction.

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