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# *Brief Reports*

## Varieties of Combat Stress Reaction
### An Immunological Metaphor

The use of an immunological metaphor allows the incorporation of established theoretical ideas about trauma and stress in an integrative way which enables delineation and illustration of several varieties of combat stress reaction, including subtle forms of that condition which do not often appear in post-traumatic stress disorder literature.

Traumatic experience and the Israeli population are inseparable. The Holocaust, immigration, the eruption of five wars, as well as continuous military tension, all condensed into a short span of history, have unfortunately had a wide traumatic impact. The abundance of accumulated clinical data, as well as work with Holocaust survivors and psychological war casualties, has shown us that the post-traumatic experience has many expressions and takes many forms.

The concept of combat stress reaction (CSR), a sub-category of post-traumatic stress disorder (PTSD) (American Psychiatric Association, 1980), has suffered from the lack of a unifying explanatory model. Clinicians have tended to one of two theoretical concepts. The first uses Freud's (1921) idea of trauma, in this context to describe a massive emotional shock of such power that it breaks past the defence mechanism and floods the person with uncontrollable anxiety. This implies a highly specific individual vulnerability based on previous early experience, which persists in its power to immobilise afresh. The second and more recently elaborated major theoretical model is that based on the model of stress and coping (Cannon, 1929; Selye, 1956), which describes the accommodation of the organism to general stress. This biological stress model has been expanded to include psychological and social factors, such as occur in the battle situation (Lazarus, 1966; Titchner & Ross, 1974).

These two explanatory theories, while not contradictory, are not conceptually unified. Our ongoing experience with war casualties has revealed variations and nuances in the clinical expressions of CSR that required an approach using both models in combination. The immunological metaphor we have chosen, while not an explanatory model, runs like a thread between the two theories, exploiting the inherent nature of the immune defensive response: current adaptive responsivity based on previous exposure. Thus, the immune metaphor includes both explanatory models, without invalidating either, and facilitates further exploration of PTSD.

### Characteristics of the immune system

The immune system is a defence system. It is reponsible for maintaining physical health, and in turn requires for its proper functioning overall integrity of other systems of the organism. To understand the immune metaphor, some of its unique operational modes (Kimball, 1983) must be made clear.

(a) The immune system has both general, innate defensive properties, independent of contact with a foreign substance (antigen), as well as acquired, specific protective responses that are gained through contact with foreign substances (antigen-dependent).
(b) It identifies and reacts to outside noxious elements.
(c) When confronted by an overwhelming, massive exposure to inimical elements, it may fail.
(d) It has a unique ability to memorise identifying features of the threatening element. Once sensitised, it may mobilise an enhanced response when rechallenged by even small amounts of the original threat. Thus, smaller and smaller challenges may produce larger and larger responses.
(e) The immune response may be either immediate or delayed.
(f) Once activated by a specific foreign substance, the response may later be cross-activated by less specific substances, thus changing from a highly specific response to a generalised reactivity.
(g) The immune response can be protective, but it may also miscarry and become self-destructive, creating a new form of illness.

### Varieties of acute combat stress reaction

#### Immediate CSR

Immediate CSR occurs when a psychological system is overwhelmed by a massive, life-threatening situ-

ation. The defence capability, if present at all, is initially fragmentary, dissociated, and uncoordinated, and the response undifferentiated and amorphous. This is analogous to an overwhelming assault by a virulent infection, to which the body cannot mobilise an adequate immune response in time. This common battlefield entity is illustrated by the following case-history.

A 25 year-old tank crewman, after three days and nights of continuous action during which many of his comrades were killed, lost communication with his unit. He was discovered in a mute, disorientated state, wandering aimlessly in the desert, and was so overwhelmed with anxiety that he had to be evacuated by helicopter to a field hospital.

### Acute CSR

The clinical picture of acute CSR is that defined by DSM–III under the category of acute PTSD. It involves such symptoms as: re-experiencing the traumatic event; numbing of responsiveness to, or reduced involvement with, the external world; and a variety of autonomic, dysphoric, or cognitive symptoms. Just as the clinical symptoms of an infection reflect the product of the invading and the defending forces, so the acute combat reaction may be seen as reflecting a duel between the anxiety-provoking, painful, and as yet unintegrated memories and emotions on the one hand, and the defensive efforts to block, seal off, or dampen them on the other. This rise in defensiveness may be reflected both in increased intrapsychic defensiveness and in behavioural-interpersonal responses such as irritability, decreased sociability, and withdrawal. It is this dynamic interplay of the anxiety and the attempt to overcome it which is so characteristic of acute CSR, and which determines the form of the ultimate outcome, whether towards resolution or towards chronicity.

The soldier described in the previous section became coherent after two days, and was then transferred to a rear-echelon psychiatric facility. His disorientation continued to improve, but he was troubled by nightmares, and by flashbacks of battle scenes during his waking hours. He was extremely irritable, hypersensitive to noise, and subject to bouts of crying, while at the same time reluctant to discuss his battle experiences. His complaints gradually abated, and by the end of five months he was sufficiently symptom-free to resume normal activities.

### Missed immediate CSR

As in the immune system, the resistance to combat stress depends on the degree of previous preparedness (innoculation), and on the intactness of the surrounding support systems. As in most infections, the natural history of immediate CSR tends in most cases towards spontaneous remission. A certain proportion of these cases would therfore not be recognised or documented (Moses & Cohen, 1984), and as such could be defined as missed immediate CSRs. Whether the immediate condition remits, or persists to evolve into acute PTSD, the subject, like the immune system, becomes sensitised. He is thus permanently altered, harbouring the potential for a future enhanced response on re-exposure to a similar threatening stimulus; this lays the foundation for a possible delayed reaction.

## Varieties of delayed combat stress reaction

On exposure to trauma, regardless of whether or not there is an acute response of the kinds mentioned above, there is always the possibility of a delayed response (Archibald & Tuddenham, 1965). This is analogous to delayed responses in the immune system; the use of the immune metaphor assists in discerning the delayed forms of PTSD.

### Reactivation of combat reaction

Just as an exposure to a minimal amount of allergen in a sensitised patient may lead to an extreme reaction – even tranaphylactic collapse – so may soldiers who have suffered previously from frank, acute CSR collapse under minimal military exposure, years later.

A 25 year-old infantryman, diagnosed as suffering from acute CSR in the Yom Kippur War of 1973, returned to full functioning in civilian life, including family and work involvement. He managed to maintain his equilibrium until call-up, 11 years later, to the war of 1982. From the moment he received his mobilisation papers he became increasingly anxious, and finally collapsed on arrival at his unit, as it was preparing for the field.

### Reactivation of missed combat reaction

This is a variation on the reactivation of CSR, mentioned above. Just as a patient who appears to develop a massive hypersensitivity reaction for the first time is found to have suffered subclinical, undiagnosed previous responses, so a soldier suffering from an unexpectedly severe combat reaction may be discovered to have undergone an antecedant, unnoticed CSR.

A 28 year-old soldier was evacuated with a full-blown CSR, which at first sight seemed to have been generated by a relatively minor battle stimulus: the chance sight of a casualty, witnessed from afar. In treatment it became clear

that this disproportionate reaction actually originated from a trauma sustained in a previous war, when he suffered a severe CSR, which went undiagnosed at the time but which nonetheless, served to sensitise him.

### Displaced combat stress reaction

Hypersensitivity, once established, may generalise and turn into cross-sensitivity, which implies development of the full-blown immune response, provoked by a wider range of less specific stimuli (Christenson *et al*, 1981). Similarly, a CSR may be provoked by a life event completely unrelated to war, occuring in a civilian setting.

A 31 year-old civil engineer developed a full-blown PTSD, following the death of his father. His symptoms consisted of guilt-laden dreams and flashbacks related to the tramatic war experience of six years previously, from which he had not suffered in the interim.

Our experience indicates that almost any life event which bears some relationship to any facet of the original trauma has the power to create a displaced CSR: e.g. loss of any kind, such as the death of a family member, divorce, road accidents, or dismissal from work.

### Delayed combat stress reaction

The clinical picture of delayed CSR is, like the acute type, defined by DSM–III under the heading of PTSD, chronic or delayed. The symptoms are essentially the same as in acute CSR, except for the time element. The symptoms either endure for six months or more, or develop at least six months after the trauma (Archibald & Tuddenham, 1965).

The delayed CSR can be likened to an illness developing months or years after the exposure to the invading agent. The form of the illness is the product of the late expression of the bodily immune defences, which have become over-responsive and harmful in their own right. An example is tuberculosis, where the patient may present suddenly with a serious cavitating lung condition due to hypersensitivity to the bacillus, many years after first becoming infected

A 24 year-old soldier experienced many frightening combat situations, which evoked fear, anger, and grief at the loss of comrades. He continued his military function, although feeling "robot-like'. At the end of the war he was discharged normally and returned to civilian life, continuing university studies and renewing social contacts. Increasingly, he felt that he "wasn't the man he had been previously". He was surprised that he had mounting difficulty in concentration, unexplained depressive feeling, and was unable to enjoy life. Suddenly, without an apparent trigger, seven months after discharge, he developed sleeplessness and nightmares about friends who had died in the war; he also had flashback phenomena, and became apathetic and immobilised.

### Retrospective combat stress reaction

In certain immunological illnesses, such as serum-sickness, a circulating foreign substance will develop enhanced antigenic properties, when the host later develops sufficient antibodies to cause a reaction. Similarly, there are soldiers who develop a changed attitude to previous war-related experience, so that re-evaluation of combat memories produces a stress reaction which was originally absent. This altered perception may be as a result of changed circumstances in their lives, particularly changes related to attachment and bonding, such as marriage or the birth of a child. These changes, which would be seen by life-cycle theorists such as Erikson or Maslow as healthy psychological growth and maturation, cause a more disturbing light to be shed on what was previously perceived simply as an adventurous event or a necessary unpleasant duty. The subject develops the capacity to imagine and to identify with the emotional consequences of killing and being killed, so that fragments of previous experience become retrospectively traumatic. This phenomenon has been noted in the Holocaust literature (Krystal, 1968), as in the case of the woman who, as a young girl, witnessed with relative emotional detachment the bashing to death of a baby plucked from its mother's arms by SS guards. Only after attaining motherhood herself, many years later, was the woman able by identification to experience the full horror of such an event; she then became severely anxious at the prospect of losing her own baby. New attachments may thus produce alteration in basic attitudes, so that veteran, married soldiers may now find it impossible to perform military functions that were once easy for them, and are statistically more at risk to develop CSR than their younger, single, comrades-in-arms (Solomon *et al*, 1984).

A 25 year-old soldier who experienced many frightening events as a member of an elite special-forces unit subsequently married and had a child. These new attachments in his life altered his perception of his previous close encounters with extreme danger, and he reported some anxiety at the thought of what he had been through in the past. He stated that the battle experience, previously perceived as adventures, had acquired a new frightening dimension, reported vague tension at the idea of being called up again, and was embarassed to discover that he was immobilised with anxiety. On rejoining his unit, he was suffering from a condition identical to immediate CSR, was unable to continue serving there, and was referred for psychiatric care.

## Discussion

The clinical picture of CSR, and hence of PTSD, is richer than appears in the current literature. DSM–III has enabled broad categorisation of the nuclear syndrome of PTSD, while providing a valuable diagnostic tool (Solomon *et al*, 1984) for the identification of CSR. Our accumulated clinical experience through several wars reveals that the varieties of CSR are numerous and subtle, so that the immune system has proved to be a particularly useful metaphor in delineating and presenting them in a systematic way. This metaphor highlights the complexity of the interplay between stumulus and response, as well as the multiform clinical nature of combinations in which they appear. It reduces the relevance of the dispute over the importance of the source of the trauma – whether early or late, intrapsychic or interpersonal, personality-related or stimulus-related – and so contributes towards simplifying the paradigm that has troubled clinicians working in the field of trauma. Although essentially biomedical, it serves to incorporate psychosocial-aetiological factors in an integrative way. Moreover, the metaphor has important and direct ramifications, both in its preventive and therapeutic implications; while we have found it useful in discerning the varieties of CSR, we believe it is no less useful for civilian work, e.g. in the general hospital setting (Kutz *et al*, 1986).

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