

Rotoriasis

Another Perspective

- Bryan Bledsoe

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Rotoriasis is a poorly understood debilitating condition afflicting medical, paramedical and nursing personnel. The syndrome has been recently described as afflicting those who habitually inhabit medically-tasked helicopters. Rotoriasis has been present for several decades. However, due to complicating factors of war neurosis at the time of helicopter introduction, the original presentation of rotoriasis went unremarked.

Recently, the full threat of rotoriasis as a debilitating condition has become appreciated with research directed at elucidating the etiology, pathology and possible treatment modalities being undertaken.

This paper addresses a systematic classification of the syndrome and discusses the etiology and possible treatment modalities.

Classification

Through international consensus and by following accepted evidence-based practices, a five-point classification system has been devised and is appropriate to this complex condition. Initial symptoms are neuro-psychological, but, in advanced cases, autonomic symptoms are common. The classification system is detailed in Table 1 (below).

The symptomatology of the mild form is difficult to elicit without the immediate proximity of a helicopter or the prospect of a flight. The extreme grades 4 and 5 present with palpitations and sympathetic engagement at the sound or sight of a helicopter (see Figure 1 below).

Etiology

A number of theories have been advanced to explain the phenomenon of rotoriasis. These include possible infective, electromechanical, psychosocial and addictive-dependent etiologies.

Infective : An infective etiology is possible. However, there is no evidence of transmission of the disease in the absence of the actual helicopter. Therefore, one would have to postulate a mode of transmission with the helicopter as the source, the vector or both. Although helicopters have been known to transport many items, some being as abstract as an ego, it's unlikely that they act as the host for an infective agent.

Electromechanical: Helicopters are known to generate large charges of static electricity due to the action of the rotor blades. It has been suggested that the repeated exposure to

the static electricity charges may interact with the central nervous system at a cellular level. This theory is attractive in that it does account for the correlation of symptoms with exposure. However, observation of workers associated with electricity-generating plants, which presumably have similar environments, does not demonstrate equivalent symptoms of rotoriasis.

Toxicological : The possibility of a toxin acting on the central nervous system (CNS) and associated with flying helicopters has been postulated. A possible toxin in the form of aviation fuel (Jet A) thus presents itself. This etiology seems more promising because lesser but related syndromes have been observed in association with fixed-wing retrievals and motor sport medical teams. In both of these environments, the victims would have been exposed to high-octane petrochemicals. If a petrochemical poisoning was postulated then the long duration of symptoms would indicate some irreversible binding to receptors in the CNS. To date, specific receptors for aviation gas have not been identified. However, this postulated etiology does open the door to possible treatment using either a competitive blocker or reuptake inhibitor. No significant trials have taken place thus far, although, by using the classification system detailed here, a clinician could evaluate the impact of such a trial.

Psychosocial : As the condition is essentially a behavioral abnormality, it's tempting to search for a psychosocial cause to account for it. No research has confirmed any patterns of early childhood abuse or inappropriate toilet training among the sufferers of rotoriasis. Evidence suggesting this line of inquiry can be assumed from the victims of mild rotoriasis who had only indirect contact with the actual agent (see Figure 2 below). Interestingly, this is seen particularly among the media and politicians who may have a specific psychosocial profile in common. Having said that, it's still possible to observe indirect rotoriasis in a surprisingly large section of the community as a whole. A treatment modality is thus suggested by the observation that the presence of an accountant and a budget sheet seems to inhibit the symptoms. Possibly, a form of aversion therapy could be devised which repeatedly demonstrates the apparent cost and futility of the beliefs in question.

Addictive-dependent : Like many addictions, the sufferer appears to demonstrate craving which is satisfied for a short time after exposure but returns stronger than ever after a brief pause. This theory does not identify the specific components that are addictive but would suggest that, like many other addictions, it will prove difficult to treat. Detoxification centers, situated large distances from any helipad, would seem to be worth investigating. Gradually withdrawing patients using smaller helicopters, model helicopters and eventually pictures of helicopters has been trialed, and many addicts now have pictures in their offices for no apparent reason. Unfortunately, the extreme social stigma of this disease among the medical profession often causes addicts in treatment to be withdrawn and uncommunicative about their problems.

Management

Rotoriasis has been with us since the early days of "M*A*S*H," although the astute historian may detect an extremely early example in some of the work of Leonardo de

Vinci. Because of its incipient progress, it became quite widely established in the medical community before it came to the attention of epidemiologists. The endemic problem of rotatoriasis must be managed at a societal level as well as at the individual level.

Although there may be some support for isolation on a suitably chosen rock in mid-ocean, this form of treatment is unacceptable in today's humane society. Victims of rotatoriasis need empathetic support and long-term psychotherapy. Until more is understood about the etiology, many of the possible pharmacological modes of treatment must be confined to trials.

Recommendations

When any new syndrome is described, the reaction of the medical community tends to be polarized in its views of the treatment. This paper recommends an open and inquiring attitude to establish a greater understanding of the etiology and long-term sequelae of the disease, while locking up those who question its existence. The latter strategy is obviously sound, as this is a sensitive test for the early symptoms of rotatoriasis among the medical community.

Although attention should obviously be focused on the group with the more overt demonstrable forms of the disease, the paramedical staff should not be ignored; they show signs of being as vulnerable as their medical colleagues. Overt rotatoriasis has been identified in flight nurses as well as paramedics, and these individuals should not be left out of treatment programs.

Conclusions

Rotatoriasis is a serious epidemic that threatens to cripple our health-care system as it affects medical staff from intensive care and emergency departments as well as nursing and paramedic staff. The authors urge clinicians to be on the look out for the early signs and recommend the inclusion of this disease in the designated psychiatric texts. The authors further recommend the establishment of treatment centers and research programs dedicated to identifying the etiology and best management practices.



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