

Identification and Disposal of Fear of Flying: Review and A Case Report

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This paper briefly reviews the psychodynamics of fear of flying and presents a case of a young flight navigator manifesting fear of closed space of Canberra cockpit following his marriage and loss of a close companion in a flying accident. The patient responded well to relaxation and systematic desensitisation therapy.

Keywords: Motivation, hyperventilation, medical evaluation, behaviour therapy.

Fear of flying connotes unreasonable fear or anxiety that develops in trained aviators who are free of other emotional symptoms¹. Though most successful aviators are of a self sufficient and adaptive nature with no neurotic symptoms, aviators as humans do not differ in their emotions, fear or actions. Bernard Shaw² observes that fear is the only universal passion. Though military flying is a stressful situation, by the time an aviator completes his training successfully, he has also proved that he is adapted to flying. However, a flyer who has mastered the techniques but is unable to fly, is in Reinhardt's words "one of the greatest tragedies of military aviation"³. The man-hours involved in flying, cost factor and the extensive logistic support required all make this problem an urgent one. The term "fear of flying" was used to denote a non-medical, administrative removal from flying status during World War II. The initial observations of such a "symptom" were recorded by Bond⁴ and later by Tempereau⁵. In this article, a case of fear of flying is presented along with a brief review of the psychodynamics with an emphasis to exclude organic basis for such a manifestation and on the need to identify such an occurrence in the early stage itself.

Psychodynamics

An aviator takes pride and derives satisfaction in flying - the ultimate dream of every man. Psychoanalysts consider that the aviator identifies the aircraft as an extension of self and as a symbol of power. Motivation to fly is a dominant feature in successful aviators. Jones and Perrian¹ differentiate an emotional and cognitive aspect of motivation to fly. Aviators with emotional attachment to flying often display a strong motivation to continue flying, while others with cognitive attachment based on rational

arrival of a decision to fly may develop conflicts later. Similarly some individuals may choose flying because of latent neurotic tendencies.

Bond⁴ discriminates two types of reactions to this interaction between personality, motivation and the natural ability of the individual to accomplish a particular task. In the first type, the conflicts arise due to the "symbolic meaning of flight" itself while in the second, the conflicts are due to "aggressive feelings" towards a precipitating event - death of a companion, accident, etc. While fear is a reaction to an imminent external danger, in fear of flying it is latent. The most common finding is anxiety. Anxiety is a signal to the ego that an unacceptable drive is pressing for conscious representation and release⁶. The ego takes a defensive action by either repression or displacement of the drive.

Sours et al⁷ succinctly divided the symptomatology into manifest and latent fear of flying. In the manifest fear of flying, the aviator readily agrees to his fear, but is otherwise emotionally stable. He may have ill-defined motives for flying and may present as an acute situation reaction or with psychosomatic symptoms or sociopathic behaviours. His symptoms disappear once he is relieved of flying and may do well in his new job. In the latent fear of flying, the motivation to fly is strong, however due to recent life events (changing opinion of spouse, death of a companion, trivial accident, etc.) there may be subtle changes in motivation. They present as either chronic air sickness, syncopal attacks in flight, anxiety/panic attacks or phobic reactions to a particular situation or place. In these aviators, strong oedipal influences may be projected as separation anxiety or repressed hostility. Paternal influence and a strong identification with the father may be present although this is a common finding in aviators. A simplified representation of the various influences is given in Fig. 1.

Case Report

A 26 yrs old Flight Navigator, with a total flying experience of 1,027 hrs in transport aircrafts, reported for conversion training to a bomber aircraft.

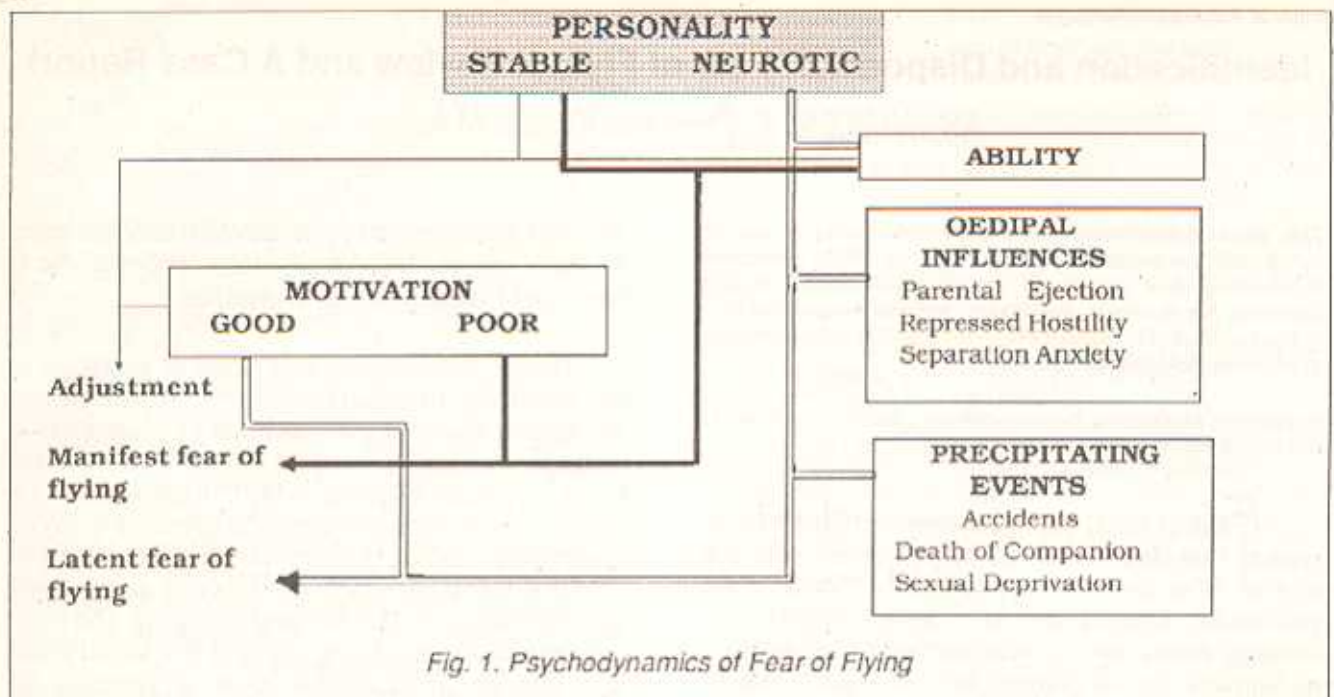


Fig. 1. Psychodynamics of Fear of Flying

After flying for 25 hrs in trainer versions, he was found to be reporting sick often. On enquiry by his Commanding Officer, the Navigator expressed a "sense of insecurity and discomfort bordering on fear" while flying in the closed space of the navigator's seat in B58/B12 versions. He felt comfortable in other aircraft where he could see the pilot. Since he was apprehensive and lagging behind in the syllabus, he was referred for psychiatric evaluation. Physical, metabolic and biochemical parameters were within normal limits. Pulse was 82 bpm and regular, blood pressure 130/80 mm Hg and thyroid normal. There was no digital tremor or hyperhidrosis. Cardiovascular and respiratory systems were normal. Resting ECG was normal. EEG showed background alpha rhythm with no abnormal activity and was considered to be within normal limits. Psychometry did not bring out any neurotic or psychotic tendencies. He was found to be anxious, wishful in nature, considered his fear irrational, but was not willing to talk about it. He showed a strong attachment to his father. He showed no marital disharmony, having married after he reported for the conversion training. Under relaxation therapy, he improved and was keen to continue his Course. He was not put on any drugs. He was returned to restricted flying with the advice to be exposed to the Canberra cockpit in a phased manner and to continue relaxation therapy.

He returned after 3 months, still apprehensive and having flown only 2 hrs after his last medical. Narcoanalysis done during this time revealed fear of

height and closed space related to a childhood event at the age of 9 yrs from which his father had rescued him. Moreover, death of another navigator, with whom he had close affiliation, in a flying accident had shocked him. At that time he was on leave - just a month before his marriage.

He responded well to relaxation and systematic desensitisation and was keen to complete his training. He was returned to full flying duties; did about 75 hrs of day flying and 5 hrs of night before becoming an operational Navigator on Canberra. His performance was average. However, he was apprehensive at times while flying with a younger pilot.

A month after becoming operational, while in the last leg of a low altitude straight level flight with a younger pilot, he suddenly complained of severe chest pain and giddiness. The pain was on the left side of the chest, piercing in nature and lasted for 3 to 4 minutes and was accompanied by profuse sweating. He was found to be hyperventilating and the sortie was aborted. ECG taken soon after showed atrial ectopics and non-specific ST and T wave changes. He was treated symptomatically and discharged after 4 days with a normal ECG. Psychiatric evaluation at this juncture revealed no neurotic tendencies; he confided that only 25% of his symptoms of fear was present. His motivation appeared reduced and he showed slight emotional conflict. His interaction within the unit was good.

During subsequent medical review and recategorisation, additional investigations included tilt table studies which showed a normal response. Auditory Evoked Potential (AEP) response on middle latency component (50-200 ms) was studied. These are attention related potentials (P 70, N 100, P 160) and the electrogenesis of these potentials are in secondary association cortex, parietal cortex and are suggested to be modulated by frontal lobe activity. Functional/psychiatric disorder could also be studied. It did not bring out any significant result. Stress testing was carried out. Stress testing revealed J-point depression of 1.5 mm with slow up-sloping ST during peak exercise. He was diagnosed as a case of ECG abnormality and placed under observation. The patient appeared relieved on hearing this. He was returned to his unit and is continuing relaxation therapy, while being off flying duties.

The above case appeared to be a clear case of fear of flying until his incapacitation in flight. Three questions arise regarding his presentation:

a. Whether the acute pain chest was due to an organic pathology or hyperventilation in flight or due to acute anxiety attack?

b. Whether the abnormal ST and T wave changes in ECG detected on stress was incidental or related to the attack of pain chest?

c. Whether it was a continuing spectrum of the latent fear of flying with somatisation?

Discussion

Fear of flying is commonly encountered in student pilots and those with less than 2,000 hrs of flying⁷. Among the aviators who were unable to fly high performance aircraft, Reinhardt³ found that 17% of these cases could fly comfortably when a co-pilot was present; another 17% had recent intra-family conflicts; 11% showed a counter-phobic attitude to flying; another 11% failed on the brink of success (fear of success syndrome); 19% had recurrent personal tragedies and the cause could not be determined in the rest. This gives us quite an insight into the range of conflicts that may ultimately present as fear of flying. Sours et al⁷ opine that those aviators with a latent fear of flying often have strong motives to fly, but the motivation may be displaced due to recent life events and a true phobia of flying occurs only in a case with latent fear of flying. In a similar

attempt to explain the natural history of the symptoms, Tempereau⁵ describes five stages of development:

- Stage I - Initial thrill ("It's fantastic")
- Stage II - Hot Pilot ("I want to be up and away again")
- Stage III - Airplane driver ("All in a days work")
- Stage IV - Emergence of anxiety ("Was I right in choosing flying?")
- Stage V - Defence formation ("The oxygen failed, you know")

This gives a good idea of the onset and development of symptoms.

Sheehan⁸ says that the initial location of a panic attack often creates anxiety in the individual that he subsequently tries to avoid the situation by a phobic behaviour. Coryell et al⁹ followed up 30 cases of panic disorders and found that they as a group showed excessive morbidity due to cardiovascular disease and 20% had committed suicide within 6 yrs. Hence they caution that even in the presence of overt symptoms of anxiety, these patients may show a trace of depression-like helplessness and escapism ("I just want to get away"), that they should never be ignored.

Hyperventilation has protean manifestations, a physiological basis and often has a psychological disposition. It is a common finding in student pilots and aircrew of high performance aircraft¹⁰. It may give rise to arrhythmias, T wave changes and mimic ischaemic changes¹¹. The effortless rapid breathing of the hyperventilating subject is a typical finding. Lum¹¹ observes that one should always look for this since, "It turns bosom watching from a furtive masculine diversion into a positive scientific study", perhaps with possible gratifying returns.

It has also been observed that patients with mitral valve prolapse are often prone to have tachycardia, atypical chest pain and dyspnoea. They may be asymptomatic or may present with anxiety attacks/panic disorders.¹² Kantor et al¹³ observe that in susceptible individuals, panic attacks, arrhythmia and excessive urinary catecholamines may all be encountered in patients with mitral valve prolapse. However, clinical evidence of a midsystolic click and late systolic murmur are usually present though variable with changes in posture¹³. Echocardiography reveals the characteristic posterior displacement of the mitral valve leaflets.

Conclusion

The complexity of the symptoms and the various manifestations may put off a Squadron Medical Officer (Sqdn MO) that he may be content to take refuge in the terminology "fear of flying" and leave the rest to the Psychiatrist. However, it is found that good interaction between the Psychiatrist and the Sqdn MO is often needed in the identification of symptoms and in continuing the therapy. Since behaviour therapy is found to be more effective (relaxation, systematic desensitisation) than psychotherapy¹⁴, the therapy has to be often supervised by the Sqdn MO in the Unit. Hence, a good understanding of the problem is necessary.

In the case presented above, a young flight navigator, well motivated for flying, manifested apprehension of the closed space of Canberra cockpit. The symptoms manifested after his marriage and after the death of a close companion in a flying accident. The apprehension impaired his professional functioning, which he considered as irrational. Fear was more during low level sorties while flying with a junior pilot. He responded positively to relaxation and systematic desensitisation. He appeared to be a case of latent fear of flying until he manifested an acute onset of chest pain in a typical setting of acute panic attack. His initial ECG changes could have been due to hyperventilation associated with the panic attack. In this case, ECG abnormality after stress testing was considered to be an incidental finding. With relaxation and systematic desensitisation, he is expected to become fit for flying from a psychiatric point of view. However, if found resistant, a medical disqualification based on his symptoms or an administrative action may be the only possible solution.

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