

Matricide Related to Interferon Associated Psychosis



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Submission: March 20, 2018; **Published:** April 23, 2019

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Abstract

The antiviral agent interferon is frequently associated with various psychiatric adverse reactions. Among the most severe psychiatric reactions, psychotic symptoms have been reported to appear in less than 1% of interferon treated patient, as well as homicidal attempts or thoughts. Psychotic symptoms may follow a chronic course, even after interferon treatment cessation. Only 6 cases of homicidal attempts or thoughts emerging during interferon treatment have been reported until now. In these cases homicidal concerns disappeared after interferon cessation, and no acting-out has been reported until now. We describe a first case of homicide committed by a 56 years old woman presenting a chronic psychosis during interferon treatment. Familial history of psychotic disorder and concomitant psycho-active drug abuse were associated. Our case confirms that interferon treatment may be associated with severe psychiatric reaction, even a possible personal vulnerability and a concomitant drug abuse may have played a contributing role. This demonstrates that the lack of previous personal psychotic history does not protect from severe psychiatric reaction with interferon treatment. Concomitant psychoactive drug abuse and familial history of psychotic disorder should be evaluated before interferon treatment initiation. Psychiatric care must be continued until significant clinical improvement, even after cessation of interferon treatment. Life-threatening persecutory ideas and misidentification delusion should draw attention for severe behavioural reactions.

Key points

Interferon treatment is associated with various psychiatric adverse reactions. Severe psychiatric reactions include psychosis and homicidal concerns. We report the first case of psychosis and homicide related to interferon treatment. Psychosis persisted after interferon treatment cessation. Precautions before initiation and after cessation of interferon treatment are suggested.

Keywords: Homicide; Interferon; Psychosis; Drug abuse; Misidentification; C hepatitis; Misidentification

Introduction

The antiviral combination of interferon alpha (INF) and ribavirin is a standard treatment of chronic viral C hepatitis. However, INF treatment is associated with various psychiatric adverse reactions including anxiety, depression, suicidal thoughts, suicide, bipolar disorder, delirium and psychosis [1]. A personal history of mental disorder has been reported as being an important predictive factor for occurrence of psychiatric symptoms associated with interferon therapy [1].

Among the most severe psychiatric adverse reactions, psychotic disorders have been evaluated to occur in less than 1% of INF treated patients [1,2]. Consequently, psychiatric status of patients must be closely evaluated before INF treatment and during the first weeks of treatment. Psychotic symptoms require psychiatric management, and discontinuation of interferon treatment may be warranted [1,3]. However, even after INF cessation, psychiatric symptoms may persist [2,4], following a chronic course [1,5-7]. Homicidal ideation and attempts have also been rarely reported in INF treated patients [8-11]. Homicidal ideation has been estimated to occur in less than

1% of INF treated patients [8], and only two cases of homicidal attempt in INF treated patient have been reported [10]. However, no homicide has been reported until now. We describe a first case of forensic matricide related to a psychosis associated with Interferon alpha2a and Ribavirin treatment.

Case Report

In December 2002, Mss A, 56 years old, killed her mother (91 years old) by burning her after provoking a voluntary and serious head trauma. The homicide was motivated by a wide delusional process including persecutory and life-threatening poisoning ideas, and a misidentification theme (she thought that her mother was substituted by a killer), constructed on pathological interpretations and auditory hallucinations. She was convinced that interferon was intended to poison her by her substituted mother. Due to chronic C hepatitis, Mss A has been treated by Interferon alpha2b and Ribavirin from 10 to 5 months before homicide. Indeed, 5 months after its initiation, treatment was disrupted after emergence of psychotic and depressive symptoms. She was treated with paroxetine and oxazepam,

but compliance was low, leading to persistence of psychotic symptoms until the crime. In addition, she used to smoke cannabis. After the crime, Mss A was hospitalized in psychiatry and successfully treated by antipsychotic and antidepressants, leading to full remission of psychotic symptoms. She was diagnosed as presenting a mental and behavioural disorder, psychotic subtype, due to a multiple psychoactive substance use (F 19-51) according to DSM IV TR criteria [9]. She had no previous history of psychotic disorder. She had a personal history

of heroine consumption stopped many years ago. One brother had an history of psychotic disorder, not otherwise specified.

Discussion

We describe a first case of homicide occurring during the course of a chronic delusional disorder associated with INF treatment. Concomitant cannabis use was noted. She had no personal psychotic antecedent. However, she had a familial history of psychotic disorder.

Table 1: Case reports of homicidal concerns related to interferon treatment.

	Homicidal concern	Antiviral treatment	Somatic co-morbidities	Other treatments	Concomitant psychoactive drug use	Psychiatric antecedents	Psychiatric symptoms after INF initiation	Outcome after cessation of INF
Case 1 [Rifflet 1] 36 years old	Homicidal attempt on his daughter 3,5 months after INF initiation	Interferon alpha 2b	C Hepatitis AIDS	Zidovudine		Drug abuse Psychotic history reported later	Depressive disorder, suicidal ideation	Loss of view and suicide
Case 2 [Rifflet 2] 38 years old	Homicidal impulse on his wife 2 months after INF initiation	Interferon alpha 2b Ribavirin	C Hepatitis Renal transplant after Berger disease	Azathioprine Ursodesoxycholic acid		No	Delusional disorder, persecutory ideation	Resolved in 48 hours
Case 3 [James] 51 years old	Homicidal ideation 1 month after INF initiation	Interferon alpha 2b Ribavirin	C Hepatitis HIV	Paroxetine (prophylactic) Zidovudine Lamivudine		Drug abuse	Paroxetine withdrawal, anxiety, agitation	Resolved
Case 4 [Marks, 48] 46 years old	Homicidal ideation after INF initiation	Interferon alpha2	C Hepatitis	SSRI	Drug-seeking behavior	Drug abuse History of mental health problem, not specified		Resolved
Case 5 [Marks, 97] 61 years old	Homicidal ideation after INF initiation	Interferon alpha2	C Hepatitis	Lortab Fosinopril Propranolol Glipizide		Drug abuse	Anger, irritability, aggression	Resolved
Case 6 [Marks, 123] 55 years old	Homicidal ideation after INF initiation	Interferon alpha2	C Hepatitis	Hydrocodone Acetaminophen		Drug abuse		Resolved
Case 7 [Author] 56 years old	Homicide 5 months after INF cessation	Interferon alpha 2b Ribavirin	C Hepatitis	Paroxetine, Oxazepam (low compliance)	Concomitant cannabis use	Heroine abuse	Delusional disorder, persecutory ideas, misidentification.	Persistence of delusional disorder for 5 months

Homicidal ideation during INF treatment has been previously described in one case report [11], and has been estimated to occur in less than 1% on INF treated patients (3 cases on 460 INF-treated patients) [8]. And two case of homicidal attempts in INF treated patients have also been reported [10], for a total of 7 published cases of INF treated patients with homicidal concerns, including our case (Cf Table 1). Homicidal ideation/attempt emerged as single or during a wider psychiatric disturbance including depressive disorder, delusional disorder, paroxetine withdrawal, anger, irritability. All patients had a previous history of drug abuse; only one patient had a previous history of psychotic disorder. In all cases, homicidal ideation/

attempt disappeared after cessation of INF treatment. It remains undetermined whether the rate of homicidal ideation in INF treated patients is representative of the expected incidence rate for the general population, but chronological and clinical features suggest that interferon played a causative role in their emergence. Comorbidities, associated treatments and/or previous psychiatric history may had also play a contributive role in most of the reported cases.

Psychosis is a rare occurrence during INF treatment, estimated from less than 0.01% to less than 1% of INF treated patients. Persistence of psychotic symptoms after

discontinuation of INF treatment has been reported [5,6], and appears to be not uncommon (7/10 patients were still psychotic after cessation of INF treatment) [2]. In these cases, continuation of psychiatric management is necessary after disruption of INF treatment.

From a larger point of view, schizophrenia and other psychoses are associated with violence and violent offending, particularly homicide [12]. However, among various triggers, most of the excess risk has been reported to be mediated by substance abuse comorbidity [13]. As antecedents of drug abuse is not uncommon in chronic C hepatitis patients, particular attention should be paid to possible persistent psycho-active drug abuse. In addition, delusional misidentification syndrome is considered as a risk factor for potential violence, including homicide [14], as well as life-threatening persecution ideas.

Even extremely rare, our forensic case illustrates strongly that INF may be associated with severe psychiatric adverse events, even after cessation. The extreme severity of this acting out may be considered as the result of the addition and combination of several risk factors including, familial history of psychotic disorder suggesting a possible personal vulnerability, concomitant psychoactive drug abuse, INF treatment, and clinical features of the psychotic disorder.

Conclusion

It must be noted that the lack of serious psychiatric antecedents is not protective from later serious adverse psychiatric reaction. Disruption of INF treatment does not induce systematically improvement of psychotic symptoms, and psychiatric management must be carefully conducted until significant improvement. Familial history of psychotic disorder should be taken into account before INF treatment initiation, as well as concomitant psychoactive drug abuse, especially in patients with a previous drug abuse history. In addition, emergence of delusional misidentification syndrome, as well as life-threatening persecutory ideas should awake for severe behavioral complications.

Homicide Related to Interferon Associated Psychosis

Highlights

Interferon treatment is associated with various psychiatric adverse reactions. Severe psychiatric reactions include psychosis and homicidal concerns. Psychosis may persist after interferon

treatment cessation. We report a first case of homicide committed during the course of a chronic psychotic reaction associated with previous interferon treatment. Precautions before initiation and after cessation of interferon treatment are suggested.

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DOI: [10.19080/JFSCI.2019.11.555819](https://doi.org/10.19080/JFSCI.2019.11.555819)

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