

## Case Report

# Kynanthropic and vampirism delusions: a case report and review of the literature

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## Abstract

Zoanthropy (delusional beliefs of turning into an animal) is a rare but well recognised psychiatric phenomenon. This case describes the presence of kynanthropic delusions (delusional beliefs of turning into a dog). Multiple other psychotic symptoms were also evident including unusually the additional presence of delusions of vampirism. Delusional beliefs in this case were associated with behavioural changes including growling and barking, and less commonly an expressed craving for biting people's necks to suck human blood. Symptom intensity was associated with increased psychosocial stressors for this patient, with some benefit noted from very high doses of anti-psychotic medications. Brief admissions to the acute psychiatric inpatient unit and thus removal from environmental stressors has been associated with an amelioration in symptomatology.

**Keywords:** Kynanthropy; psychosis; vampirism

(Received 7 February 2023; revised 13 April 2023; accepted 5 May 2023; First Published online 6 July 2023)

## Introduction

Zoanthropy, is a well-known, albeit rare psychiatric phenomenon which involves individuals having delusional beliefs that centre on turning into an animal, with multiple cases relating to a variety of animals noted, including lions, tigers, hyenas and maritime animals such as sharks (Coll *et al.* 1985). Kynanthropic delusions (specific delusions concerning transformation into a dog) are a rare phenomenon (Jackson, 1978; Coll *et al.* 1985; Koehler *et al.* 1990; Rao *et al.* 1999; Younis & Moselhy, 2009) which has been associated most commonly with severe depressive episodes with psychotic symptoms. Delusions of vampirism is similarly a rare phenomenon (Jensen & Poulsen, 2002) but has previously been reported in individuals diagnosed with schizophrenia (Benezech *et al.* 1981; Jensen & Poulsen, 2002). Vampirism as a single entity (not related to psychosis) has also been suggested to be a sub-type of necrophilia (Rosman & Resnick, 1989). The presence of more than one zoanthropic delusion is extremely rare, with only one previous report to our knowledge describing this occurrence (Denning & West, 1989), in which the individual was diagnosed with an acute organic state. We are unaware of any previous reports of multiple zoanthropic delusions in an individual with a diagnosis of chronic schizophrenia.

## Case report

We present the case of a separated gentleman of North African descent with a diagnosis of schizophrenia. He first presented to the

mental health service with psychotic symptoms in 2010. At this time, psychotic symptoms consisted of delusions of a persecutory and referential nature, with auditory hallucinations (second and third person) additionally prominent. His symptoms ameliorated with the anti-psychotic medication, olanzapine (up to 15 mgs nocte), with this medication subsequently reduced and discontinued over a 2-year period due to the absence of psychotic symptoms. In 2014, he represented to the mental health services and described delusions of vampirism, stating that he believed that he was a vampire and felt a need to drink other peoples' blood. He additionally described other periods (often within the same day) where he felt that he was a dog (and not a human). He described (and collateral history corroborates), a 4-month period prior to his representation of him barking and growling, with these symptoms not present prior to this time. He also experienced auditory hallucinations (from an unrecognised external source) in the second person stating that he was "a dog" or at times "a vampire" and that he should "attack", or "suck people's blood". He was distressed by these delusional beliefs and perceptions, but did not engage in assaultive behaviours secondary to these symptoms; although he described instances where he had felt a "strong need" to bite people's necks to attain their blood. Additionally, he described other delusions of a referential and persecutory nature (i.e. people talking about him, cameras monitoring him, and beliefs that people unknown to him were planning to assault him) and multiple other auditory hallucinations (second person, third person and running commentary).

He was prescribed several anti-psychotic medications both in monotherapy and in combination including; olanzapine (up to 30 mgs daily), haloperidol (up to 20 mgs daily) and paliperidone

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**Cite this article:** Mulholland K, McLoughlin A, McDonald C, and Hallahan B. (2024) Kynanthropic and vampirism delusions: a case report and review of the literature. *Irish Journal of Psychological Medicine* 41: 493–496, <https://doi.org/10.1017/ipm.2023.29>

long-acting injection (150 mgs monthly), with minimal effect and consequently he was commenced on clozapine in October 2016. A significant reduction in symptomatology was noted following initiation of clozapine, with the complete resolution of zooanthropic delusions and increased social engagement also evident. Approximately 16 weeks after clozapine commencement, he developed neutropenia (clozapine-induced) (lowest level of 0.3 mmol/l), which required granulocyte colony stimulating factor (subcutaneously) for a 7-day period. Following the discontinuation of clozapine, his symptoms quickly re-emerged, with kynanthropic delusions and delusions of vampirism (to a lesser extent), representing significant components of his illness. These symptoms were particularly prominent over the last 12 months. Other psychotic symptoms have also been prominent and on one occasion he assaulted (non-serious, with no weapon employed and no injury of note suffered) a family member secondary to persecutory delusions. This has resulted in far less family support being available to him.

Of note, he has a previous history of harmful alcohol use, which has reduced significantly in recent years, and he has no history of illicit psycho-active substance use. He has a first-degree relative with a diagnosis of schizophrenia, but they do not experience zooanthropic delusional beliefs to his knowledge. He has no history of childhood trauma, including no history of been bitten by any animal or any significant bullying.

A full range of blood tests have been performed and are within the normal range. Olanzapine levels have been undertaken due to the utilisation of high dose of this anti-psychotic, with a plasma level of 52 ug/l noted at 60 mgs of olanzapine. A Historical Clinical Risk Management-20 Version 3 (HCR-20V3) risk assessment was conducted in May 2022 (Douglas *et al.* 2013). This tool establishes professional guidelines for the assessment and management of violence risk for individuals who pose a risk for future violence. On completion, a significant risk to others was noted given his score was >30 (32). Historical (non-modifiable) risk components such as previous violence, major mental illness, relationship instability and employment problems contributed heavily to this score, along with active risk management factors which included exposure to de-stabilisers, lack of personal support and stress.

Pharmacotherapeutic agents employed since the discontinuation of clozapine have included a combination of high dose anti-psychotic medications (olanzapine up to 80 mgs per day, and haloperidol up to 25 mgs per day), and treatments to support insomnia (promethazine and zopiclone), with benzodiazepines prescribed at times of significant agitation. These strategies have been associated with only minimal efficacy; however, attempts at reduced levels of psychotropic medication are associated with increased intensity of symptoms and insomnia. Positive and Negative Syndrome Scale Scores (PANSS, Kay *et al.* 1987) have ranged since discontinuation of clozapine between 78 and 161. Case conferences have been conducted on two occasions with senior clinical staff, and have included consultant haematologist opinions. Consensus opinions have suggested that a re-trial of clozapine would be associated with a very high risk of reoccurrence of neutropenia, and thus clozapine should not be administered. Other supports have included weekly community mental health nurse input, occupational therapy and social work input as required, regular outpatient medical reviews (approximately every 4 weeks) and, at times of increased distress, a period of admission. There have been eight admissions to the psychiatric inpatient unit (of 1–4 weeks) since the discontinuation of clozapine.

The above strategies impart some relief for this gentleman (with associated reduced PANSS scores), however he continues to experience psychotic symptoms and engages in behaviours (particularly at times of stress) secondary to his delusional beliefs, including barking and growling, with kynanthropic delusions present on an almost daily basis. He has also stated that he has a strong desire at times to bite people to attain blood, and has informed staff on a number of occasions that he wanted to bite them, but has not followed through on this action. Brief periods of admission have been associated with a reduction in symptomatology and a separate pathway to facilitate admission when required for this gentleman has been established. He has been advised to not engage in vocational or educational activities in environments where he works with other individuals as his symptoms increase in these scenarios and regular input from the community mental health team is on-going. Unfortunately, his prognosis is very guarded due to the longevity of his symptoms and lack of significant response to a range of psychotropic medications both as monotherapy and in combination.

## Discussion

In this case report, we present a combined presentation of kynanthropic delusions and delusions of vampirism in addition to a range of other psychotic symptoms in a gentleman with a diagnosis of treatment resistant schizophrenia. To our knowledge, this is the first case involving combined kynanthropic delusions and delusions of vampirism. Kynanthropy, the delusion of transforming into a dog, is a form of delusional misidentification of self, and has previously been considered as similar to lycanthropy, a delusional belief of turning into a wolf (Guessoum *et al.* 2021). Diagnostic criteria identified by Keck *et al.* (1988) for lycanthropic delusions, includes identification either retrospectively or during periods of lucidity that the individual has identified as a particular animal and/or has acted in a manner reminiscent of a particular animal. In this case, the patient has presented with canine behaviours such as barking and growling, and has expressed clinical zooanthropic delusions as a symptom of schizophrenia. Delusions of vampirism (transforming into a vampire) are also rare and are delusions of misidentification of self. The individual described in this case report, has not acted on these delusions, despite the additional presence of command auditory hallucinations instructing the patient to consume human blood, which he has not acted upon. This is in contrast to a reported case of auto-vampirism, where the patient consumed their own blood (Jensen & Poulsen, 2002), or vampirism where the blood of others was consumed (Sakarya *et al.* 2012). The causation of delusional misidentification of self, remain not fully understood. Where these delusions occur in individuals with focal neurological lesions, studies have noted a preponderance of right frontal and parietal lobe lesions, but acknowledge a greater distribution of lesions may be important in delusion formation (Devinsky, 2009; Thode *et al.* 2012; Darby & Prasad, 2016). One theory surmises that an impairment in processing sensory input combined with an impairment in our belief evaluation system, located in the right frontal lobe, can result in the persistence of such delusional beliefs (Coltheart *et al.* 2007). Additionally, culture has been long understood to play an integral role in the content of delusions (Gaines, 1995). A systematic review identified 43 cases of lycanthropy or kynanthropy and highlighted the predominance of such delusions within Western countries (Guessoum *et al.* 2021).

Whilst the presence of multiple zooanthropic delusions simultaneously has not widely been described (Dening & West, 1989), there have been a number of reports of zooanthropic delusions (delusion of self-misidentification) and other delusions of misidentification (Capgras or Fregoli Syndrome) occurring comorbidly (Arisoy *et al.* 2014; Guessoum *et al.* 2021). Kynanthropy and vampirism delusions are not pathognomonic and thus can be viewed as a symptom(s) of an underlying neurological or psychiatric condition. Kynanthropy has most frequently been identified in individuals experiencing a severe depressive episode with associated psychotic features (Rao *et al.* 1999; Younis & Moselhy, 2009), but has also occurred during the course of other mental health disorders including schizophrenia and bipolar disorder (Keck *et al.* 1988; Nejad & Toofani, 2005; Sayar *et al.* 2014). Organic causes implicated in zooanthropic delusions include epilepsy (Moselhy, 1999), obstructive sleep apnoea (Gama Marques, 2019), and alcohol and/or psycho-active substance misuse (Surawicz & Banta, 1975; Garlipp *et al.* 2009; Nasirian *et al.* 2009). In this case, the patient has no significant medical history and does not misuse alcohol or psycho-active substances. Whilst, kynanthropic delusions have previously been reported to be often transient in nature (Guessoum *et al.* 2021), despite a variable course over the last 4 years, these delusions have been quite persistent and are similar to a report of continuous kynanthropic delusions for 13 years (Keck *et al.* 1988). Indeed, these delusions have occurred even when other psychotic symptoms have not been particularly prominent. Delusions of vampirism have most commonly been related to schizophrenia or schizophreniform disorders (Benezech *et al.* 1981; Jensen & Poulsen, 2002), but have been noted to occur as a single entity (not related to psychosis) and in this scenario are suggested to be a sub-type of necrophilia (Rosman & Resnick, 1989).

To date, the symptoms of this patient have been largely but not completely resistant to psychotropic medications, apart from clozapine which cannot be administered given his previous diagnosis of clozapine-induced neutropenia. He fulfils criteria for treatment resistant schizophrenia and thus ultra-high doses of psychotropic medications have been required with some, albeit minimal success. Non-pharmacological mechanisms have been of some benefit including removal from psycho-social stressors via an acute psychiatric inpatient admission. He does not wish to engage in cognitive behaviour therapy for psychosis, and case conference discussions have suggested that this intervention would likely be of very minimal benefit for him. A low stimulus environment (single room on a quiet ward) has been helpful in ameliorating his symptoms in the short-term and this strategy will continue to be employed. Risk to others (he has no history of self-harm) remains moderate and significant supports from the community mental health team will be required in the long-term.

## Conclusion

This case suggests that more than one zooanthropic delusion can occur in the same individual and clinical histories should examine if further zooanthropic delusions or other delusions of misidentification are present where a zooanthropic delusion is elicited. In this case, clozapine administration was associated with a significant amelioration in symptomatology and should be considered in the absence of response from other anti-psychotic medications.

**Acknowledgements.** We wish to acknowledge the patient who agreed to participate with this case report and was aware of all details of the case report.

**Financial support.** This research had no specific grant from any funding agency, commercial or not-for-profit sectors.

**Competing interests.** No competing interests for any of the authors.

**Ethical standard.** The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committee on human experimentation with the Helsinki Declaration of 1975, as revised in 2008.

**Consent.** Written informed consent was obtained by the patient for publication of this report.

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