ORIGINAL ARTICLE

Case Series of Mania Secondary to HIV/AIDS in Patients at two Tertiary Hospitals in Lusaka, Zambia

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ABSTRACT

Objective: The objective of the study was to gain the greater knowledge of the mania secondary to HIV/AIDS while specific objectives were to determine whether the specific clinical characteristics of mania secondary to HIV identified in previous studies are also found in Zambian patients and to determine whether patients with secondary mania have increased irritability.

Design: A case series was carried out at Chainama Hills Hospital and University Teaching Hospital in which ten patients suffering from secondary mania due to HIV were recruited and followed during a period of 2 months. They were assessed for symptom severity, demographic and clinical characteristics of interest at the time of recruitment in the study and followed up at 4 weeks and 8 weeks. The patients were given routine care and treatment during their stay in the hospital, which included HAART, antipsychotics as well as mood stabilizers.

Results: Six out of ten patients were females and four were males. The minimum age of the participants was 19 years; the maximum age was 48 years while the average age was 35.3 years. The minimum CD4 count was 3; the maximum CD4 count was 319 while the average CD4 count was 156.00 (SD142.45); median was 152.50. CD4. The Young Mania Rating Scale scores were calculated at the time of recruitment and at the time of follow up at 4 weeks and at 8 weeks after discharge. The mean YMRS at the time of follow up (8weeks) was zero while YMRS at time of follow up (4 weeks) was 12.40(SD 6.85), which was significantly lower than mean YMRS at the time of recruitment 42.70 (SD 8.44), ($t=5.724$; $df=9$; $p=0.001$; <0.05). Furthermore, the mean Irritability Score on YMRS at time of follow up (8weeks) was zero while at the time of follow up (4weeks),it was 2.40(SD 2.06), which was significantly lower than mean Irritability Score on YMRS at the time of recruitment 5.20(SD 2.7), ($t=3.674$; $df=9$; $p=0.005$; <0.05).

Conclusion: The use of anti-psychotics, mood stabilizers and initiation of HAART in patients with mania due to HIV is effective in the management of these patients.

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INTRODUCTION

Globally the prevalence of HIV /AIDS among the adult population was 0.8% in 2009 and in Sub-Saharan Africa 5% whilst in Zambia, it is 13.5%[1]. Mental illness in Sub-Saharan Africa, specifically in Zambia is largely unquantified and the number of patients with mental health problems associated with HIV is unknown.

The prevalence of HIV related mania is not known though previous studies from Sub-Saharan Africa[2, 3, 4], Europe[5] and the United States of America[6] have shown that individuals with HIV infection are at an increased risk of developing mental disorders. Secondary mania directly caused by HIV was found

to have a 17 month prevalence of 8% in AIDS patients treated by specialist services in Melbourne, Australia[7], considerably greater than the less than 1% lifetime prevalence of manic disorders in persons without HIV. A recent cross-sectional study of psychiatric inpatients in Uganda revealed that secondary mania caused by HIV was a common cause of admission to psychiatric hospital, particularly in females (43.2%) [4]. The study in Uganda is one of the few studies done in Sub-Saharan Africa and leads one to ask whether mental disorders are common among HIV infected individuals in Zambia and what factors contribute to mental disorders in this population. Two other studies in Uganda have described the demographic and clinical profile of patients with HIV related secondary mania in comparison to that of HIV negative individuals with primary mania[2, 3]. These studies have shown that patients who met criteria for secondary mania were older, female, of low economic status, had no college education, were divorced or separated[2]. Clinically, they presented in late stages of infection with more severe manic and psychotic episodes. Cognitive impairment as indicated by MMSE, was greater in HIV positive patients with secondary mania than in HIV negative patients with primary mania[2, 3]. HIV positive patients with secondary mania were more likely to be immunologically suppressed with low CD4 counts, than HIV negative patients with mania[4]. Manic symptoms occurring in HIV Disease are well recognized complications of HIV infection of central nervous system[8]. They were more likely to have developed dementia or other cognitive impairment indicating brain damage[9]. Manic symptoms would need to be controlled as they are associated with promiscuity and substance abuse which is a risk factor for contracting HIV[10].

The burden of secondary mania among patients with very low CD4 counts in Zambia is unknown. A relationship between low CD4 count and secondary mania was noted in the study by Nakimuli et al and suggests that HIV related secondary mania could be used as an indicator for ART initiation where CD4 count is not available[4].

The prevalence of mania in Zambia is not known. This is compounded by lack of epidemiological research in mental illness, however, in the researcher's own experience, the number of cases meeting the criteria for DSM IV- TR is increasing. What is not clear with this increase is whether it is primary mania or secondary mania linked with HIV.

METHODS

This study design was a case series in which patients with acute manic episodes were admitted to Chainama Hills College Hospital and University Teaching Hospital. . Patients were enrolled over a period of 2 months and a total of 10 patients were recruited during this period. Patients were recruited after they have been admitted to the wards Patients were assessed for symptom severity, demographic and clinical characteristics of interest at time of recruitment (i.e. day of admission) and followed up at 4 weeks and at 8 weeks. The Principal Investigator obtained consent to the study from either patients or relatives. Patients received standard routine care which included a psychiatric history lasting between 30min to 1 hour from patients as well relatives and caregivers. Thereafter physical and mental state examination were conducted. DSM IV- TR criteria was used to confirm mania clinically. The severity of manic symptoms was assessed using Young Mania Rating Scale. Patients were given standard treatment for acute mania. This consisted of antipsychotics and mood stabilizers. These patients were also commenced on HAART. The laboratory findings, results from Young Mania Rating Scale, Mini Mental State Exam and histories were then recorded in a book and sealed in envelopes. Once patients had been discharged, they were followed up at 4 weeks and 8 week intervals. Those patients who traveled from long distances like rural areas, were followed up by use of mobile phone to interview patients and care givers.

The Statistical Package for the Social Sciences (SPSS), version 20 was used to calculate various measures of central tendency, measures of dispersion, frequency distributions, and draw charts. The study hypotheses were tested using Independent Samples t Test at significance level of 0.05.

RESULTS

Table 1: Characteristics of the patients

Variables	Values	Frequency (n=10)	Percent
Sex	Female	6	60.0
	Male	4	40.0
Age	19-28 years	3	30.0
	29-38 years	2	20.0
	39-48 years	5	50.0
Marital status	Single	4	40.0
	Married	4	40.0
	Widowed	2	20.0
Educational level attained	Primary	2	20.0
	Junior secondary	2	20.0
	Senior secondary	2	20.0
	Tertiary education	4	40.0
Employment status	Unemployed	4	40.0
	Employed	6	60.0

The distribution of CD4 count varied among the patients. The minimum CD4 count was 3; the maximum CD4 count was 319 while the average CD4 count was 156.00 (standard deviation = 142.450); median was 152.50. CD4 count of four participants was unavailable.

Prevalence of Specific Clinical Characteristic of Mania to HIV Patients

The findings revealed that at the time of recruitment (Time 1) and at time of follow up (4 weeks), (Time 2) all the patients had mania (YMRS >20). The results further revealed that at the time of recruitment, seven patients were irritable (had irritability score ≥4), at time of follow up (4weeks), four patients were irritable and at time of follow up (8weeks), all the ten patients had no symptoms of irritability. Table 2 presents descriptive statistics on YMRS readings at time of recruitment and follow ups (4weeks and 8weeks) and irritability scores on YMRS, respectively. Figure 1 and 2 show declining YMRS and declining IRS linear trend patterns.

Table 2: Descriptive Statistics on YMRS and Irritability Score on YMRS

	N	Range	Minimum	Maximum	Mean	Std. Deviation
YMRS Time 1	10	26	27	53	42.	8.447
YMRS Time 2	10	13	23	36	30.	5.012
YMRS Time 3	10	10	0	10	3.70	3.889
IRS Time 1	10	6	2	8	5.20	2.700
IRS Time 2	10	6	0	6	2.80	2.348
IRS Time 3	10	2	0	2	.40	.843

NB: Time1 = Time of recruitment; Time 2 = Follow up (4 weeks); Time 3 = Follow up (8 weeks).

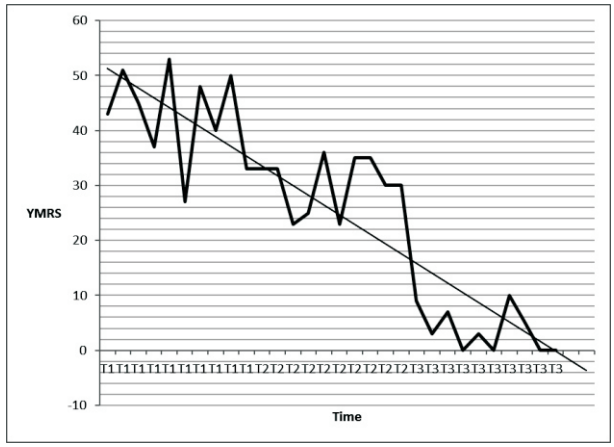

Figure 1: Trend analysis of YMRS

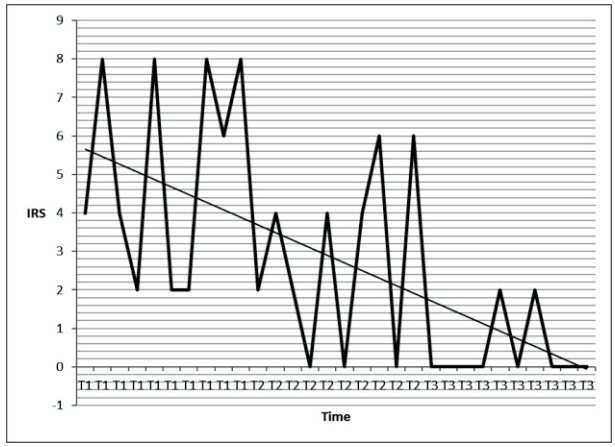

Figure 2: Trend analysis of IRS

Further analyses were conducted to test the following hypotheses.

1. H_0: there is no difference in the YMRS at time of recruitment and YMRS on follow up (4weeks and 8weeks).
2. H_0: there is no difference in the Irritability Score on YMRS at time of recruitment and follow up (4weeks and 8 weeks).

Both hypotheses were tested using Paired samples t tests at a significance level of 0.05. In both cases the results were statistically significant. The mean YMRS at follow ups (4weeks and 8weeks) was significantly lower than mean YMRS at the time of recruitment. (t=5.724; df=9; p=0.001; <0.05). Furthermore, the mean Irritability Score on YMRS at follow ups (4weeks and 8 weeks) was significantly lower than mean Irritability Score on YMRS at baseline (t=3.674; df=9; p=0.005; <0.05).

Further Independent t Tests were conducted to establish whether age had any association with mania. The findings indicated that at Time 1 ((t=0.173; df=3; p=0.873), at Time 2 (t=0.131; df=3; p=0.904), and at Time 3 (t=1.549; df=3; p=0.219) there no association between gender and irritability. Similarly, there was no significant association between mania and gender at Time 1 (t=1.767; df=8; p=0.115) and at Time 2 (t=0.919; df=8; p=0.385), except at Time 3 (t=2.438; df=8; p=0.041). Female patients (mean YMRS=5.67) had higher levels of mania than male patients (mean YMRS=0.75).

Further Independent t Tests were conducted to establish whether gender had any association with levels of irritability. The findings indicated that at Time 1 ((t=0.181; df=8; p=0.861), at Time 2 (t=0.313; df=8; p=.762), and at Time 3 (t=-0.290; df=8; p=0.779) there no association between gender and irritability. Similarly, there was no significant association between irritability and age (t=0.775; df=3; p=0.495).

DISCUSSION

Nakimuli-Mpungu et al, (2006) did a study on primary mania versus HIV related secondary mania in Uganda. They found that HIV positive patients with HIV related secondary mania were more irritable with a mean score of 7.5 (S.D 1.2) p <0.001 and they had a higher score on the Young's Mania Rating Scale 48 (S.D 5.5) p<0.001. This is line with the present study in which the mean irritability score at the time of recruitment was 5.20 (SD 2.7) though it reduced to 2.40 (SD 2.06) at follow up (4weeks) and further reduced to zero at follow up (8weeks). The mean score for Young's Mania Rating Scale at time of recruitment was 42.70 (SD 8.447). It reduced to 12.40 (SD 6.85) at the time of follow up (4weeks) and further reduced to zero at the follow up (8weeks). In the same study, they noted that the patients with secondary mania due to HIV/AIDS were less educated. 60.6% of the participants were educated up to primary level or less and 39.4% of the participants were educated up to secondary level or more. The findings of the present study are in contrast with this as 20% of the participants were educated up to primary level while 80% of the participants were educated up to secondary level or more. However, looking at the limitations of the present study in which the sample size was very small, these findings cannot be generalized.

Nakimuli-Mpungu et al in a controlled study of demographic profiles and clinical characteristics of Bipolar mania and secondary mania in persons with HIV/AIDS in Uganda in 2009, found out that patients with secondary mania due to HIV/AIDS were older at the time of onset of first episode of mood symptoms. The findings of the present study are in line with the previous study as the average age of the patients with secondary mania due to HIV/AIDS was about 35.3years, which shows that they were older. It is interesting to note that both the participants that were younger than 35 years were born with HIV, reflecting that they both manifested with mood symptoms at a much later stage of their HIV. Both of these participants did not have a family history of mood disorders.

Lyketsos et al, (1993) in a case series of manic syndrome early and late in the course of HIV reported that HIV positive patients with mania all suffered from advanced HIV disease (AIDS). The CD4 count of all patients who had no family history of HIV was less than 100. The mean age of patients with a history of mood disorder was 33.6 years (SD

5.4). These findings are similar to the current study in that all participants had no history of mood disorder and the mean age of participants was 35.3 years. Interestingly, however the highest CD4 count was 319 and the lowest was 3. The average CD4 count was 156.00 (SD142.45); median was 152.50.

Case 1

Case 1 was a 46 year old female widow who had recently tested HIV positive with a CD4 count of 3. Her husband died 15 years prior. She had one child. She had university level of education and was coming from a high social economic background. She presented with symptoms of elated mood, talking too much, irritability, not sleeping at night, poor appetite, hyperactivity, flight of ideas, auditory hallucinations, had heightened libido, believed that one of the former presidents belonged to a cult, also believed that she was getting married on her birthday, could hear God's voice talking. . On examination she was not found to have had cognitive deficits. Antipsychotics were commenced on first visit. However, she was not commenced on HAART immediately. On follow up 4 weeks after recruitment she was still disinhibited and grandiose and still slightly irritable. Her initial score on YMRS was 48 at time of recruitment with an irritability score of 8. On 4 week follow up her YMRS was 35 and irritability score 4. HAART was only commenced after her 4 week follow up. On the second follow up (8 weeks) she was asymptomatic on mental state exam and scored zero on YMRS. A diagnosis of Mania secondary to HIV was made because she had no previous psychiatric history and neither did she have a family history of mental illness.

Case 2

Case 2 was a HIV positive 19 year old male who had contracted HIV from his mother at birth. He came from a poor social economic background. He had no past or family. He presented with symptoms of violent behavior, talking too much, irritability not sleeping, seeing visions, increased libido, impulsivity, believing that he was a famous footballer, believed that he had large sums of money in several different accounts. He would dish out money that he had saved up from the allowance his mother gave him and at times used the money to buy alcohol. He would be over familiar with women he didn't know and would pay compliments to them. He had no cognitive deficits on assessments. His initial score on YMRS was 53, and an irritability score of 8. On examination he had no cognitive deficits. On 4 week follow up he scored 36 on YMRS and 4 on irritability. HAART was commenced on admission to Chainama hospital. On follow up (8weeks), he was asymptomatic and scored zero on YMRS. CD4 count was not available as both patient and mother could not recall.

Case 3

Case 3 was a 44 year old female HIV positive, single, university level of education. She had never been married. She came from a high social economic background. She presented with elated mood, over familiarity, pressure of speech, hyperactivity, difficulties concentrating with work, thinking too much, anxiety, racing thoughts, disinhibition, decreased need for sleep, increased libido. Her CD 4 count was 220. She initially scored 45 on YMRS and 4 for irritability. She had no cognitive deficits. She was put on Olanzapine and Lorazepam and also initiated on HAART (Truvada and Nevirapine). On 4 week follow up she scored 23 on YMRS and had an irritability score of 2. On mental state, she appeared calmer, cooperative but with slight irritability. On 8 week follow up she was asymptomatic and scored zero on YMRS.

CONCLUSION

This study was done to gain more knowledge of mania secondary to HIV in patients who presented at Chainama Hills College Hospital and University Teaching Hospital, Lusaka, Zambia. The findings show that prior to commencing HAART, the patients were found to be very irritable and scored high on the Young's Mania Rating Scale. This shows that the use of antipsychotics, mood stabilizer combined with the commencement of HAART is very effective in treating mania secondary to HIV.

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