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Case Report

The efficacy of endoxifen in treating borderline personality disorder in young female patients: reports of two cases

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ABSTRACT

This case reports presents two young female patients diagnosed with borderline personality disorder (BPD) who were treated with endoxifen. The report details their clinical presentations, previous treatment histories, the rationale for initiating endoxifen as adjunctive therapy, and the subsequent clinical outcomes. The objective is to understand the efficacy and safety of endoxifen in managing BPD symptoms, focusing particularly on impulsivity, mood fluctuations, and overall functional recovery.

Keywords: Endoxifen, Borderline personality disorder, Protein kinase C

INTRODUCTION

Borderline personality disorder (BPD) is characterized by pervasive instability in interpersonal relationships, self-image, and emotions, often leading to impulsive behaviours and significant distress.[1] According to the DSM-5, BPD affects approximately 1.6% of the adult population, with a higher prevalence among females. Traditional treatment approaches include psychotherapy (e.g., dialectical behaviour therapy) and pharmacotherapy; however, challenges remain due to limited efficacy and tolerability of existing medications.[1] Endoxifen, a potent inhibitor of protein kinase C (PKC), has emerged as a promising therapeutic agent for psychiatric disorders such as bipolar disorder, and substance abuse.[2-4] Its pharmacological profile is characterized by its ability to modulate intracellular signalling pathways that are critical for mood regulation and impulsivity. Clinical evidence indicates that endoxifen effectively reduces manic symptoms in bipolar disorder, with studies demonstrating significant improvements on the Young Mania rating scale compared to standard treatments, and showing rapid onset of action within days.[5,6] Additionally, its mood-stabilizing properties may assist in managing substance use disorders by alleviating cravings and enhancing overall treatment adherence. In the context of BPD, preliminary findings suggest that endoxifen may help mitigate core symptoms like emotional dysregulation and impulsivity, leading to improved patient outcomes.[2] Overall, endoxifen's unique mechanism and emerging clinical data portray it as a valuable adjunctive therapy for these complex psychiatric conditions, warranting further investigation into its long-term efficacy and safety. These case reports explore the efficacy and safety of endoxifen as a novel therapeutic option for managing BPD symptoms.

CASE REPORTS

Case 1

A 21-year-old female student presented to our clinic with a five-year history of psychiatric symptoms, including irritability, self-harm, suicidal ideation, and significant mood fluctuations. She did not have any physical or psychiatric comorbidities. Previous pharmacological interventions included Desvenlafaxine (50 mg at bedtime), Clonazepam (0.5 mg at bedtime), and Amisulpride (100 mg at bedtime), which were ultimately deemed insufficient due to inadequate symptom relief and tolerability issues.

Her treatment was revised to include Desvenlafaxine 50 mg at bedtime, 2 mg of risperidone at night (increased to twice daily after one week), Lorazepam 2 mg at night, and Clonazepam 0.25 mg three times daily. After slight improvement, 8 mg of endoxifen was added on the tenth day for a duration of 4 weeks. Clinical outcomes indicated a 50% reduction in symptoms by day 20, as assessed by the BEST score, which improved from 69 (indicative of severe impairment) to 45 (moderate improvement) (Table 1 and Figure 1) Functionally, she resumed her college activities without reporting adverse effects or any menstrual irregularities during the treatment period. The patient is currently taking Desvenlafaxine 50 mg at bedtime, Lorazepam 1 mg at bedtime, and Endoxifen 8 mg once daily for last 1 month.

Case 2

An 18-year-old female student presented with a two-year history of mood dysregulation characterized by impulsivity, mood swings, depressed mood, irritability, and relational difficulties. She had notable comorbid conditions including hypothyroidism, polycystic ovary syndrome (PCOS), and dysmenorrhea. Previous treatments included Divalproex (500 mg at bedtime) and a combination of Olanzapine (10 mg) and Fluoxetine (20 mg), which provided limited symptomatic improvement. Divalproex was discontinued, and Endoxifen 8 mg per day was initiated for four weeks. Aripiprazole 5 mg at bedtime was added to the regimen, which included Olanzapine 2.5 mg three times daily, Quetiapine 50 mg at bedtime, and Tofisopam 50 mg three times daily. The patient also participated in DBT sessions and biofeedback relaxation techniques. Remarkably, by day 10, she experienced a 50% reduction in symptoms. Her clinical global impression-severity (CGI-S) score improved from 4 (moderately ill) to 2 (much improved), reflecting significant clinical progress (Table 1). Throughout the treatment course, she reported enhanced emotional stability and improved interpersonal relationships without any noted adverse effects or menstrual irregularities. The patient is currently receiving Endoxifen 8 mg once daily and Aripiprazole 5 mg at bedtime for 1 month.

Table 1: Summary of patient profile and treatment details.

Parameters	Case 1	Case 2
Age (years)	21	18
Gender	Female	Female
Occupation	Student	Student
Marital status	Single	Single
Duration of illness (years)	5	2
Comorbid conditions	Nil	Hypothyroidism since 3 years
Substance use	Nil	None reported
Gynaecological history	No history of PCOS or menstrual irregularities	PCOS and dysmenorrhea since 3 years
Clinical presentation	Irritability, self-harm, suicidal ideation, mood fluctuations	Impulsivity, mood swings, depressed mood, irritability, relationship difficulties
Previous medications	Desvenlafaxine 50 mg HS (2 years), Clonazepam 0.5 mg HS (2 years), Amisulpride 100 mg HS (6 months)	Divalproex 50 mg HS (3 months), Olanzapine + Fluoxetine 10/20 mg HS (2 months), Clonazepam 0.25 mg TID (2 months)
Rationale for treatment change	Insufficient symptom relief and tolerability issues (e.g., sedation from clonazepam)	Limited improvement with prior medications (Insufficient symptom relief and tolerability issues)
Treatment protocol		
Initial pharmacotherapy (baseline at endoxifen initiation)	The new treatment protocol included Desvenlafaxine 50 mg at bedtime. The patient started with 2 mg of risperidone at night, which was increased to twice daily after one week. Lorazepam 2 mg was administered at night, and clonazepam 0.25 mg was given three times a day After observing only slight improvement, 8 mg of endoxifen was added on the tenth day of treatment. The patient also received regular DBT sessions.	Divalproex was discontinued, Endoxifen 8 mg per day was initiated for four weeks. Aripiprazole 5 mg at bedtime was added to the treatment regimen, which included Olanzapine 2.5 mg three times daily, Quetiapine 50 mg at bedtime, and Tofisopam 50 mg three times daily. The patient also engaged in DBT sessions.
Post-endoxifen treatment	Desvenlafaxine 50 mg HS, Lorazepam reduced to 1 mg HS	Aripiprazole 5 mg HS
Clinical outcomes		

Continued.

Parameters	Case 1	Case 2
Symptom relief	50% reduction by day 20	50% reduction by day 10
Functional recovery	Resumed college activities	Enhanced relationships and emotional stability
BEST score	Baseline: 69 (severe); post-treatment: 45 (moderate improvement)	Not applicable
BIS-11 scores	In Facet I, attention score reduced from 14 to 10, motor score from 25 to 15, and planning score from 18 to 8. In Facet II, attention score reduced from 12 to 5, motor score from 11 to 9, and planning score remains steady at 9.	Not applicable
CGI-S	Not applicable	Baseline: 4 (moderately ill); post-treatment: 2 (much improved)
Adverse effects		
Adverse effects	None reported	None reported
Menstrual irregularities	None reported	None reported
Current treatment	Desvenlafaxine 50 mg HS, Lorazepam 1 mg HS, Endoxifen 8 mg OD	Endoxifen 8 mg OD, Aripiprazole 5 mg HS

Table 2: Change in BIS-11 scores in case 1 (Miss AA) after 4 weeks of Endoxifen treatment.

Parameters	Before endoxifen (I)	Before endoxifen (II)	After endoxifen (I)	After endoxifen (II)
Attention	14	12	10	5
Motor	25	11	15	9
Planning	18	10	8	9

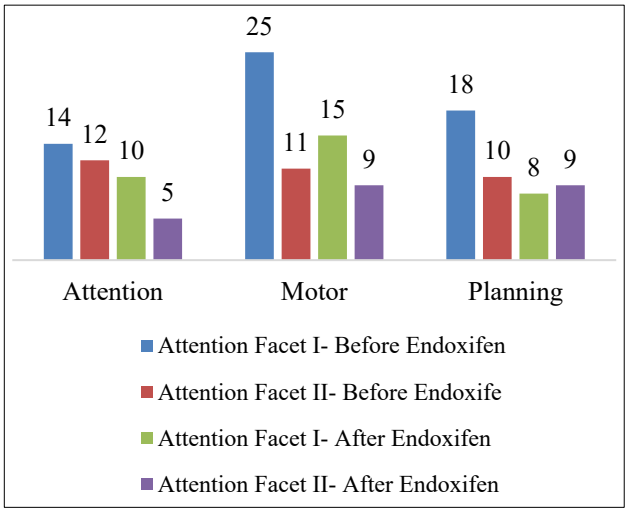

Figure 1: Change in BIS-11 scores in case 1 (Miss AA) after 4 weeks of Endoxifen treatment.

DISCUSSION

The findings from this case study underscore the promising role of endoxifen as an adjunctive therapy in the management of BPD. The rapid onset of clinical response observed within ten days of initiating treatment suggests that endoxifen possesses a unique pharmacodynamic profile particularly beneficial for patients experiencing mood dysregulation, a hallmark of BPD. Previous studies have demonstrated that endoxifen effectively targets impulsivity and mood fluctuations by modulating neurotransmitter systems that play a crucial role in emotional regulation. Additionally, endoxifen has shown promise as an adjunctive treatment for pathological gambling, with case studies revealing significant reductions in gambling urges and behaviors.[2,3,7] Its action as a potent inhibitor of protein kinase C (PKC) has been linked to improvements in impulsivity, which is a significant concern for individuals with BPD, often manifesting as non-suicidal self-injury, substance abuse, and aggressive behaviors.[2,3] Clinical evidence supports these observations; case studies involving patients with BPD have demonstrated significant improvements in impulsivity and overall functioning following treatment with endoxifen.[2] The substantial decrease in scores on the borderline evaluation of severity over time (BEST) reflects enhanced emotional regulation and better interpersonal relationships among patients. Importantly, throughout the treatment period with endoxifen, no adverse effects were reported, and there were no menstrual irregularities noted during or after treatment initiation, further reinforcing the safety profile of endoxifen in this context. This absence of metabolic adverse effects supports its viability as a treatment option for patients who may not respond adequately to traditional therapies. In addition to its efficacy in BPD, endoxifen has shown promise in managing manic episodes associated with bipolar disorder, where it has been demonstrated to effectively reduce manic symptoms.[5,6] These findings suggest that endoxifen could serve as a valuable addition to the therapeutic arsenal for mood disorders characterized by impulsivity and emotional instability. However, further research is essential to validate these results across larger populations and to explore the long-term safety and effectiveness of endoxifen in diverse clinical settings. Overall, this case study

highlights the potential benefits of incorporating endoxifen into treatment regimens for patients with BPD experiencing significant mood dysregulation and impulsivity.

CONCLUSION

This case series highlights the potential benefits of incorporating endoxifen into treatment regimens for patients with BPD experiencing impulsivity and mood dysregulation. The positive clinical outcomes in both cases suggest that endoxifen may serve as a valuable adjunctive therapy for managing BPD symptoms. Further research, particularly randomized controlled trials with larger cohorts, is needed to validate these findings and establish standardized treatment protocols.

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REFERENCES

1. Jauhar S, Johnstone M, McKenna PJ. Schizophrenia. Lancet. 2022;399(10323):473-86.
2. Potkin SG, Kane JM, Correll CU, Lindenmayer JP, Agid O, Marder SR, et al. The Neurobiology of Treatment-Resistant Schizophrenia: Paths to Antipsychotic Resistance and A Roadmap for Future Research. Focus (Am Psychiatr Publ). 2020;18(4):456-65.
3. Nucifora FC Jr, Woznica E, Lee BJ, Cascella N, Sawa A. Treatment resistant schizophrenia: Clinical, biological, and therapeutic perspectives. Neurobiol Dis. 2019;131:104257.
4. Patel KR, Cherian J, Gohil K, Atkinson D. Schizophrenia: overview and treatment options. P T. 2014;39(9):638-45.
5. Ahmad A, Sheikh S, Khan MA, Chaturvedi A, Patel P, Patel R, et al. Endoxifen: A new, protein kinase C inhibitor to treat acute and mixed mania associated with bipolar I disorder. Bipolar Disord. 2021;23(6):595-603.
6. Ahmad A, Sheikh S, Shah T, Reddy MS, Prasad B, Verma KK, et al. Endoxifen, a New Treatment Option for Mania: A Double-Blind, Active-Controlled Trial Demonstrates the Antimanic Efficacy of Endoxifen. Clin Transl Sci. 2016;9(5):252-9.
7. Kannappan Y. Endoxifen for the Management of Pathological Gambling in a Male Patient Who Overinvested in Cryptocurrency: A Case Report. Ind J Priv Psychiatry. 2024;18(2):88-90.

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