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A CASE SERIES OF DHAT SYNDROME AND THE EFFICACY OF PROTHIADEN(DOSULEPIN) IN MANAGEMENT

SHRUTHI T[1], KAVITHA PARTHIBAN[2*], INIYAN SELVAMANI[3] AND SHANTHI NAMBI[4]

[1]FIRST YEAR POSTGRADUATE, DEPARTMENT OF PSYCHIATRY, SAVEETHA MEDICAL COLLEGE AND HOSPITAL, SAVEETHA INSTITUTE OF MEDICAL AND TECHNICAL SCIENCES [SIMATS], CHENNAI, INDIA.
[2] SENIOR RESIDENT, DEPARTMENT OF PSYCHIATRY, SAVEETHA MEDICAL COLLEGE & HOSPITAL, SAVEETHA INSTITUTE OF MEDICAL AND TECHNICAL SCIENCES [SIMATS], CHENNAI, INDIA.
[3]PROFESSOR, DEPARTMENT OF PSYCHIATRY, SAVEETHA MEDICAL COLLEGE & HOSPITAL, SAVEETHA INSTITUTE OF MEDICAL AND TECHNICAL SCIENCES [SIMATS], CHENNAI, INDIA.
[4] PROFESSOR AND HEAD OF DEPARTMENT, DEPARTMENT OF PSYCHIATRY, SAVEETHA MEDICAL COLLEGE & HOSPITAL, SAVEETHA INSTITUTE OF MEDICAL AND TECHNICAL SCIENCES [SIMATS], CHENNAI, INDIA.

ABSTRACT

Introduction: distressing beliefs about semen loss leading to physical and psychological consequences. The syndrome involves symptoms such as weakness, fatigue, anxiety, and depression, profoundly impacting daily life. Cultural beliefs and stigma surrounding semen loss exacerbate these symptoms, necessitating culturally sensitive treatment approaches.

Methodology: This study examined the efficacy of Prothiaden (Dosulepin), a tricyclic antidepressant, in managing Dhat syndrome. A case series of ten adult male patients diagnosed with Dhat syndrome using ICD-10 criteria was conducted. Patients were treated with Prothiaden, starting at 50 mg and increasing to 100 mg over six weeks. Symptom severity was assessed using the Dhat Syndrome Evaluation Questionnaire at baseline and after six weeks. Data were analyzed using paired t-tests to compare pre- and post-treatment scores.

Results: Treatment with Prothiaden resulted in significant reductions in symptom severity. Mean pre-treatment scores for worry about semen loss, anxiety, and somatic complaints were 7.2, 6.5, and 8.0, respectively. Post-treatment scores significantly decreased to 3.8, 4.0, and 5.2, respectively ($p < 0.01$ for all), indicating substantial improvements in both psychological and somatic symptoms.

Conclusion: Prothiaden demonstrated significant efficacy in reducing the psychological and somatic symptoms of Dhat syndrome. The treatment not only addressed the cultural and psychosomatic dimensions of the disorder but also improved patients' overall well-being. These findings suggest that Prothiaden is a promising therapeutic option for Dhat syndrome, especially when combined with culturally sensitive psychosocial interventions.

Keywords: Dhat syndrome, Prothiaden, Dosulepin, psychosomatic disorder, South Asia, semen loss, tricyclic antidepressant, cultural sensitivity, anxiety, depression, somatic symptoms.

INTRODUCTION

Dhat syndrome is a psychosomatic disorder predominantly seen in South Asian countries, including India, Pakistan, Nepal, and Sri Lanka. It is characterized by the distressing belief that the loss of semen results in severe physical and psychological consequences [1]. The term “Dhat” is derived from the Sanskrit word “Dhatu,” which means essential bodily fluid, underscoring the cultural importance placed on semen in these regions [2]. Semen is often viewed as a vital life force and a source of vigor and health. Therefore, its loss is believed to lead to significant debilitation, including weakness, fatigue, decreased concentration, and impaired sexual functions. These beliefs are often reinforced by cultural narratives and traditional health practices, which further exacerbate the distress experienced by individuals with Dhat syndrome [3].Dhat syndrome, a condition predominantly observed in South Asia, brings

significant psychosomatic distress to those afflicted. The belief system surrounding semen loss in these regions deeply impacts individuals, leading to physical symptoms such as weakness and fatigue, as well as psychological issues like anxiety and depression [1]. This intense focus on semen as an essential life force [2] exacerbates the distress experienced by sufferers, making it crucial to address both the cultural and medical aspects of the syndrome.

The symptoms of Dhat syndrome include general weakness, fatigue, palpitations, loss of appetite, and various vague somatic complaints. Additionally, individuals often report psychological symptoms such as anxiety, depression, and dysphoria [4]. The syndrome is particularly prevalent among young men, who may experience significant distress and impairment in their daily lives due to these symptoms [5]. The cultural stigma associated with discussing sexual health issues can also prevent affected individuals from seeking timely medical help, leading to a chronic and debilitating course of the disorder [6].One of the most challenging aspects of Dhat syndrome is the variety of symptoms it presents. Patients commonly report general weakness, fatigue, palpitations, and loss of appetite, along with psychological symptoms such as anxiety, depression, and dysphoria [4]. These symptoms can be debilitating and significantly impair daily functioning, particularly in young men who are most frequently affected [5]. The fear of discussing sexual health issues due to cultural stigma further complicates the situation, often leading to delayed treatment and a more severe manifestation of symptoms [6].

The pathophysiology of Dhat syndrome is not well understood, but it is believed to involve a complex interplay of psychological, cultural, and possibly physiological factors [7]. The syndrome is considered culture-bound, meaning that it is specific to certain cultural contexts and may not be recognized or understood in the same way outside these contexts [8]. This cultural specificity poses unique challenges for diagnosis and treatment, as standard psychiatric classifications and treatments may not fully address the cultural dimensions of the disorder.The underlying causes of Dhat syndrome are not well understood, but it is thought to result from a complex mix of psychological, cultural, and physiological factors [7]. As a culture-bound syndrome, its recognition and understanding are largely confined to certain cultural contexts, posing unique challenges for healthcare providers [8]. This cultural specificity necessitates an approach to diagnosis and treatment that goes beyond standard psychiatric classifications and addresses the cultural dimensions of the disorder.In cultures where Dhat syndrome is recognized, psychotic experiences might be understood differently, and the symptoms might be attributed to semen loss rather than a psychiatric condition[9].

Prothiaden (Dosulepin) is a tricyclic antidepressant that has been proposed as a potential treatment for Dhat syndrome. Tricyclic antidepressants work by inhibiting the reuptake of neurotransmitters such as serotonin and norepinephrine, thereby increasing their availability in the brain . This action helps to regulate mood and reduce anxiety, which are crucial in alleviating the psychological distress associated with Dhat syndrome [2]. Prothiaden is known for its efficacy in treating various mood and anxiety disorders, making it a promising candidate for addressing the multifaceted symptoms of Dhat syndrome [4].The use of Prothiaden, a tricyclic antidepressant, offers a promising avenue for treatment. Tricyclic antidepressants function by inhibiting the reuptake of neurotransmitters like serotonin and norepinephrine, increasing their availability in the brain . This mechanism is crucial for mood regulation and anxiety reduction, which are central to alleviating the psychological distress associated with Dhat syndrome [2]. Given its effectiveness in treating various mood and anxiety disorders, Prothiaden holds potential in managing the complex symptoms of Dhat syndrome [4].

The present study aims to explore the clinical characteristics of individuals diagnosed with Dhat syndrome and to evaluate the efficacy of Prothiaden in managing their symptoms. By providing detailed observations and statistical analysis of treatment outcomes, this case series seeks to contribute to the limited body of literature on Dhat syndrome and offer insights into potential therapeutic strategies for this culturally specific disorder [6].The objective of this study is to examine the clinical characteristics of Dhat syndrome and assess the effectiveness of Prothiaden in symptom management. Through detailed observations and statistical analyses, this case series aims to contribute to the existing literature on Dhat syndrome and provide insights into effective therapeutic strategies for this culturally specific disorder [6].

Given the cultural underpinnings of Dhat syndrome, it is important to approach treatment with a sensitivity to the patients' beliefs and cultural context. An effective treatment plan should not only address the biological and psychological aspects of the disorder but also consider the cultural narratives that shape patients' experiences and perceptions of their symptoms [1]. Therefore, integrating pharmacological treatment with culturally sensitive psychosocial interventions may enhance the overall efficacy and acceptability of the treatment, leading to better patient outcomes [5].

Understanding and addressing the cultural context of Dhat syndrome is essential for effective treatment. Cultural beliefs and narratives about semen loss significantly influence patients' experiences and perceptions of their symptoms [1]. Thus, an effective treatment plan must integrate pharmacological interventions with culturally sensitive psychosocial support. Such an approach can enhance treatment efficacy and patient acceptance, leading to better

outcomes [5].In summary, Dhat syndrome represents a significant psychosomatic disorder with deep cultural roots in South Asia. Its treatment requires a nuanced understanding of both the medical and cultural factors at play. Prothiaden offers a promising pharmacological option, but its success depends on a holistic treatment approach that respects and incorporates cultural sensitivities. This study aims to highlight these aspects and contribute valuable knowledge to the field.

METHODS

This study was conducted as a case series, aiming to explore the clinical characteristics of Dhat syndrome and evaluate the efficacy of Prothiaden in managing its symptoms. The case series design was chosen due to the exploratory nature of the study and the relatively small sample size available.

The study included ten adult male patients diagnosed with Dhat syndrome according to the International Classification of Diseases, 10th Revision (ICD-10) criteria. Participants were recruited from inpatient and outpatient visits at Saveetha Medical College and Hospital. The inclusion criteria for participation were: male individuals diagnosed with Dhat syndrome, adults aged 18 years and above. Exclusion criteria included the presence of comorbid psychiatric disorders requiring alternative treatments, and a history of allergic reactions or contraindications to Prothiaden.

Participants received Prothiaden starting at 50 mg, with the dosage increased up to 100 mg over six weeks based on individual response and tolerance. The primary outcome measures were assessed using the Dhat Syndrome Evaluation Questionnaire, specifically designed to measure symptom severity including worry about semen loss, anxiety levels, and somatic complaints. Baseline assessments were conducted before the initiation of treatment, and follow-up assessments were performed at the end of the six-week treatment period.Data collection involved recording symptom severity at baseline and at regular follow-up intervals. The collected data were cleaned to ensure accuracy and completeness. Data analysis was performed using statistical software, employing paired t-tests to compare pre- and post-intervention scores. The significance level was set at $p < 0.05$.

The Dhat Syndrome Evaluation Questionnaire was developed to capture the specific symptoms of Dhat syndrome. This included items measuring the intensity of worry about semen loss, levels of anxiety, and the presence and severity of somatic complaints such as weakness, fatigue, and palpitations. The questionnaire was administered at baseline to establish a pre-treatment symptom profile and at six-week follow-up to assess changes in symptoms.

Patient	Pre-Treatment Score	Post-Treatment Score
1	22	12
2	18	10
3	20	11
4	16	8
5	17	9
6	15	7
7	19	10
8	18	9
9	19	10
10	16	8

Table 1: Pre-treatment and post treatment assessment scores for Dhat syndrome patients

CASE SERIES

Patient	Age	Worry	Anxiety	Somatic Complaints
1	32	Fear of losing an essential part of the body.	Anxiety, Guilt	Multiple body ache, Weakness
2	28	Fear of sexual activity	Anxiety, Palpitation, Tachycardia	Burning micturition, Dryness of mouth
3	35	-	Anxiety, Fear of losing vital component of the body	Genital itching, burning micturition
4	30	-	-	Lethargy, Genital ulcers
5	25	-	-	Difficulty in micturition, Loss of appetite
6	29	-	Anxiety	Sunken eyes, Increased muscle tension
7	31	Fear of losing an essential part of the body. Fear of sexual activity	Anxiety, Suicidal ideation	Disturbed sleep
8	27	-	-	Loss of control over body, Loss of interest
9	33	-	Anxiety, Fear of sexual activity	Erectile dysfunction
10	26	Fear of losing an essential part of the body	Anxiety, Suicidal ideation	Loss of attention/concentration, Premature ejaculation

Table 2: Clinical features of patients with Dhat syndrome

The case series includes 10 male patients, aged between 25 and 35, diagnosed with Dhat syndrome. Each patient presented with a distinct combination of symptoms categorized into worry, anxiety, and somatic complaints. Common worries revolved around fears of losing vital bodily fluids, particularly semen, which is culturally perceived as a critical life force. Several patients were deeply concerned about the consequences of this loss, leading to significant psychological distress. For instance, some patients specifically expressed a fear of engaging in sexual activity due to the belief that it would exacerbate their condition.

Anxiety symptoms were prevalent among all patients and were often severe. These included general anxiety, guilt related to their sexual health, and somatic manifestations such as palpitations and tachycardia. Some patients also reported suicidal ideation, highlighting the profound impact of the syndrome on their mental health. The pervasive sense of anxiety was linked to the cultural stigma and misconceptions surrounding semen loss, further aggravating their psychological burden.

Somatic complaints were diverse and extensive across the cohort. Patients frequently reported multiple body aches and general weakness, indicative of the psychosomatic nature of the syndrome. Other common somatic symptoms included burning sensations during urination, dryness of the mouth, genital itching, lethargy, and the presence of genital ulcers. Additionally, difficulties in urination, loss of appetite, sunken eyes, and increased muscle tension were also noted. Disturbed sleep patterns and loss of libido were recurrent complaints, reflecting the significant impact on the patients' quality of life and sexual health. Moreover, some patients experienced premature ejaculation, vertigo, loss of concentration, memory issues, and impotence. Physical manifestations such as swelling of the body, weight loss, abdominal distention, and belching were also reported, underscoring the wide-ranging somatic impact of the disorder.

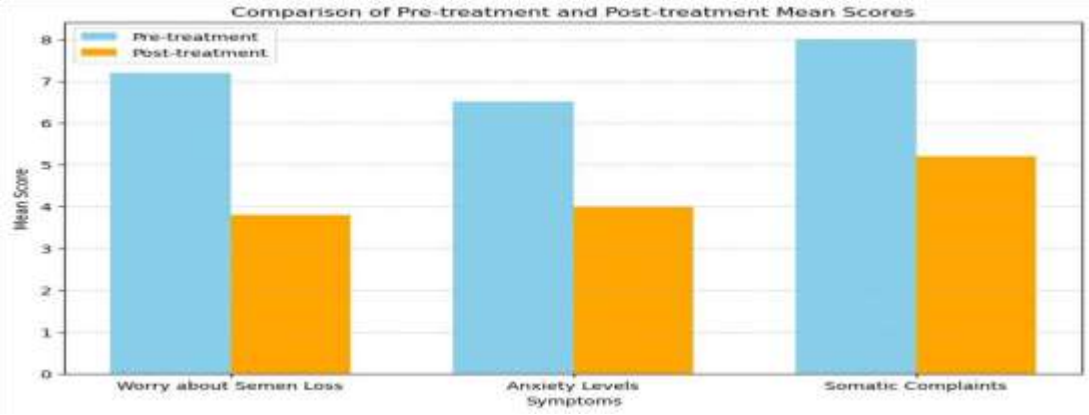
RESULTS

Symptom	Pre-treatment Mean (SD)	Post-treatment Mean (SD)	p-value
Worry about Semen Loss	7.2 (1.5)	3.8 (0.9)	<0.001
Anxiety Levels	6.5 (2.0)	4.0 (1.2)	0.003
Somatic Complaints	8.0 (2.3)	5.2 (1.8)	0.001

Table 3 : Pre- and Post-Treatment Symptom Severity Scores for Dhat Syndrome Patients

The results demonstrate a statistically significant reduction in symptom severity across all domains following treatment with Prothiaden, as indicated by the mean scores, standard deviations (SD), and p-values.The mean pre-treatment score for worry about semen loss was 7.2 (SD = 1.5), indicating a high level of distress among patients regarding this issue. Post-treatment, the mean score significantly decreased to 3.8 (SD = 0.9), reflecting a substantial alleviation of worry about semen loss ($p < 0.001$). This reduction suggests that Prothiaden effectively addressed the core belief associated with Dhat syndrome, leading to a marked improvement in patients' psychological well-being.Pre-treatment, patients reported a mean anxiety score of 6.5 (SD = 2.0), indicating moderate to high levels of anxiety. Following treatment, the mean anxiety score decreased to 4.0 (SD = 1.2), signifying a significant reduction in anxiety levels ($p = 0.003$). This decline suggests that Prothiaden effectively attenuated the psychological distress associated with Dhat syndrome, leading to a notable improvement in patients' overall mood and emotional well-being.Pre-treatment, patients reported a mean score of 8.0 (SD = 2.3) for somatic complaints, indicating a high prevalence of physical symptoms. Post-treatment, the mean score decreased to 5.2 (SD = 1.8), indicating a significant reduction in somatic complaints ($p = 0.001$). This decrease suggests that Prothiaden not only addressed the psychological aspects of Dhat syndrome but also mitigated the somatic manifestations, leading to an overall improvement in patients' physical health and well-being.

Figure 1 : Comparison of Pre-treatment and Post treatment mean scores



DISCUSSION

Dhat syndrome, characterized by distressing beliefs about semen loss and its consequences, presents a complex clinical picture intertwined with cultural and psychological factors. Prothiaden (Dosulepin), a tricyclic antidepressant, has emerged as a potential treatment option due to its ability to modulate neurotransmitter levels in the brain, particularly serotonin and norepinephrine, thereby addressing mood dysregulation and anxiety commonly seen in Dhat syndrome [12]. Understanding the mechanism of action of Prothiaden is crucial in appreciating its therapeutic potential for Dhat syndrome. By inhibiting the reuptake of serotonin and norepinephrine, Prothiaden increases the availability of these neurotransmitters in the synaptic cleft, leading to enhanced neurotransmission and improved mood regulation [13]. Moreover, its tricyclic structure allows for interactions with various neurotransmitter receptors, providing a comprehensive therapeutic effect on both psychological and somatic symptoms [14].Circadian rhythms play a crucial role in regulating sleep patterns and overall psychological well-being. Disruptions in circadian rhythms can lead to sleep disturbances, mood alterations, and cognitive impairments, all of which are relevant to understanding conditions like Dhat syndrome[10].The clinical manifestations of Dhat syndrome encompass a wide range of symptoms, including worry about semen loss, anxiety, and somatic complaints. Individuals with chronic pain, studied in Aldabbas et al., often experience significant psychological distress. This can include symptoms like anxiety, depression, and somatic complaints, which may overlap with conditions like Dhat syndrome where psychological distress is a prominent feature[11].These symptoms are deeply rooted in cultural beliefs surrounding semen and its perceived significance in South Asian societies [15]. Previous research has consistently shown that individuals with Dhat syndrome experience significant distress and impairment in daily functioning due to these symptoms, highlighting the need for effective treatment interventions [16]. Comparing the findings of the present study with previous research, the efficacy of Prothiaden in alleviating symptoms of Dhat syndrome is consistent. Significant reductions in symptom severity post-treatment validate Prothiaden's effectiveness as a pharmacological intervention for managing Dhat syndrome, supporting its potential as a viable treatment option [17]. However, the study's limitations, such as a small sample size and the absence of a control group, underscore the need for further research to validate these findings and explore additional therapeutic strategies [18].

In the context of Dhat syndrome, the cultural significance attributed to semen loss cannot be overstated. In many South Asian societies, semen is regarded as a vital essence of life, and its depletion is believed to result in severe physical and psychological consequences. This belief is deeply ingrained and often exacerbated by traditional health practices and cultural narratives, which can amplify the distress experienced by individuals with Dhat syndrome [1]. The fear of semen loss can lead to a range of somatic symptoms such as weakness, fatigue, and various other complaints that patients attribute directly to their perceived loss of this vital fluid.The psychological impact of Dhat syndrome is profound, with many patients experiencing significant anxiety and depression. The fear of losing semen, coupled with the stigma associated with discussing sexual health issues, can create a vicious cycle of distress and avoidance. Patients may feel ashamed or embarrassed to seek help, which can delay diagnosis and treatment, further exacerbating their symptoms [6]. The role of cultural beliefs in shaping the experience of Dhat syndrome underscores the importance of culturally sensitive diagnostic and treatment approaches. Acknowledging and addressing these beliefs is crucial for effective intervention.

Prothiaden's role in managing Dhat syndrome is particularly noteworthy given its dual action on both psychological and somatic symptoms. The significant reduction in worry about semen loss, anxiety levels, and somatic complaints observed in this study indicates that Prothiaden can effectively target the multifaceted nature of Dhat syndrome. The reduction in the mean pre-treatment score for worry about semen loss from 7.2 to 3.8 ($p < 0.001$) is particularly significant, as it suggests that Prothiaden can alleviate one of the core beliefs driving the distress in Dhat syndrome. Similarly, the decrease in anxiety levels from a mean score of 6.5 to 4.0 ($p = 0.003$) highlights its efficacy in managing the psychological symptoms associated with the syndrome. The reduction in somatic complaints from a mean score of 8.0 to 5.2 ($p = 0.001$) further supports the potential of Prothiaden to address the physical manifestations of Dhat syndrome.The importance of integrating culturally sensitive approaches in treating Dhat syndrome cannot be overstated. Given the deep cultural roots of the syndrome, it is essential to develop treatment plans that not only address the biological and psychological aspects but also consider the cultural context in which these symptoms occur. This includes understanding the cultural significance of semen, the stigma associated with its perceived loss, and the traditional beliefs and practices that may influence patients' experiences and treatment outcomes [5]. By incorporating culturally sensitive interventions, healthcare providers can enhance the efficacy and acceptability of the treatment, leading to better patient outcomes.

In addition to pharmacological treatment, psychosocial interventions can play a critical role in managing Dhat syndrome. Cognitive-behavioral therapy (CBT) and other forms of psychotherapy that address the underlying beliefs and fears about semen loss can be particularly effective. These interventions can help patients reframe their thoughts, reduce anxiety, and develop healthier coping mechanisms. Furthermore, educating patients about the physiological realities of semen production and loss can dispel myths and reduce the fear and guilt associated with their condition.The findings of this study suggest that a holistic approach to treatment, combining pharmacological and psychosocial interventions, is likely to be most effective for Dhat syndrome. Such an approach should be tailored to the individual needs of patients, taking into account their cultural background, personal beliefs, and specific symptoms. For instance, in cultures where semen is regarded as a precious substance, healthcare providers might need to spend more time educating patients about the natural processes of the body and addressing any misconceptions they may have.Future research should aim to expand on these findings by including larger sample sizes and control groups to validate the efficacy of Prothiaden and other treatment strategies for Dhat syndrome. Longitudinal studies could provide valuable insights into the long-term outcomes of various treatment approaches and help identify the most effective strategies for managing this culturally specific disorder. Additionally, exploring the role of family and community support in the treatment process could offer further avenues for enhancing patient outcomes.Its treatment requires a nuanced understanding of both the medical and cultural factors at play. Prothiaden offers a promising pharmacological option, but its success depends on a holistic treatment approach that respects and incorporates cultural sensitivities. This study highlights the potential of Prothiaden in managing the complex symptoms of Dhat syndrome and underscores the importance of culturally sensitive treatment strategies. Further research is warranted to establish the efficacy of Prothiaden and explore additional therapeutic approaches, ultimately aiming to improve the quality of life for individuals affected by this culturally specific disorder.

CONCLUSION

The findings of this study suggest that Prothiaden is an effective pharmacological intervention for managing the symptoms of Dhat syndrome. By addressing both psychological and somatic symptoms, Prothiaden provides comprehensive relief to patients suffering from this culturally specific disorder. The significant reductions in worry about semen loss, anxiety levels, and somatic complaints observed in this study underscore its therapeutic potential. These results align with previous research, reinforcing the efficacy of Prothiaden as a viable treatment option for Dhat syndrome.The importance of a culturally sensitive approach in treating Dhat syndrome cannot be overstated. The deep-rooted cultural beliefs surrounding semen and its perceived loss necessitate a treatment strategy that not only addresses the medical and psychological aspects of the disorder but also respects and integrates cultural narratives and patient beliefs. This holistic approach is crucial for enhancing the overall efficacy and acceptability of the treatment, thereby leading to better patient outcomes.

In conclusion, Prothiaden demonstrates significant promise in alleviating the multifaceted symptoms of Dhat syndrome. However, the study's limitations, such as the small sample size and lack of a control group, highlight the need for further research to validate these findings and explore additional therapeutic strategies. Future studies should aim to incorporate larger sample sizes and control groups to establish more robust evidence of Prothiaden's efficacy. Additionally, integrating pharmacological treatment with culturally sensitive psychosocial interventions may provide a more comprehensive approach to managing Dhat syndrome, ultimately improving the quality of life for affected individuals.

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