International Journal of Web of Multidisciplinary Studies
(Peer-Reviewed, Open Access, Fully Refereed International Journal)
website: *http://ijwos.com*
Volume.03 Issue.01.
OPEN ACCESS
E-ISSN : 3049-2424
DOI: https://doi.org/10.71366/ijwos

Generalized Anxiety Disorder: A Case Report with Pharmacotherapeutic Approach

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Article Info

Article History:

Published:31 Jan 2026

Publication Issue:
Volume 3, Issue 01
January-2026

Page Number:
697-703

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Abstract:

eneralized Anxiety Disorder (GAD) is a debilitating mental disorder that is defined by incessant, excessive worry and autonomic symptoms, which markedly affect the daily functioning. The current case report will detail the clinical presentation and treatment of a 22-year-old female patient who presented herself with a three-month history of uncontrollable anxiety, palpitations, restlessness, and insomnia. Initial physical assessment showed slight tachycardia (102 bpm) but the rest of the vital signs and systemic examinations were normal. The patient was treated to an individualized pharmacological regimen, comprising of the use of Sertraline (50 mg) as a first-line Selective Serotonin Reuptake Inhibitor (SSRI) to maintain the secondary psychiatric diagnosis of long-term stabilization and Clonazepam (0.25mg) as the initial symptomatic agent to manage the acute restlessness and sleep disturbance. As the supportive care, vitamin supplementation and gastrointestinal prophylaxis were given. Throughout the six days of observation, the patient exhibited a lot of clinical improvement as the heart rate returned to normal (88 bpm) and was less anxious. This case highlights the significance of multidisciplinary approach, which incorporates early pharmacological response, elimination of organic pathology by laboratory testing, and active clinical observation to attain the maximum therapeutic effect and enhanced living conditions of people with GAD.

Keywords: Generalized Anxiety Disorder, Sertraline, Clonazepam, SSRI, Clinical Pharmacy, Case Management

1. INTRODUCTION

Excessive concern and tension about everyday occurrences and difficulties on most days for at least six months, to the point where the person has distress or has noticeable trouble carrying out daily chores, is known as generalized anxiety disorder (GAD). The following signs and symptoms could be indicative of it: elevated autonomic hyperactivity (shortness of breath, fast heartbeat, dry mouth, cold); elevated motor tension (fatigability, trembling, restlessness, and muscle tightness) as well as heightened alertness and scanning (feeling tense, more startling, and distracted), but not by panic episodes [1].

EPIDEMIOLOGY

DSM-IV GAD Prevalence in the General Population

The DSM-IV criteria have been employed in recent prevalence studies to gauge the prevalence of GAD. In the US, the National Comorbidity Survey Replication. (NCS-R), GAD was shown to have a lifetime prevalence of 5.7%, [2]. A 12-month prevalence rate of 3.1%. 5 These findings have been corroborated by several US epidemiology investigations that found only marginally different rates.[3] It is estimated that 5% of American adults may experience GAD at some point in their lives, with current prevalence rates ranging from 2% to 3%.[4] A meta analysis of epidemiologic studies in Europe found that lifetime prevalence rates of DSM-IV GAD ranged from 0.1% to 6.9% [5]. Research conducted in six European nations using DSM-IV criteria. A lifetime prevalence of DSM-IV GAD of 2.8% was found in the largest of these investigations, which included an epidemiologic sample of more than 21,000 persons in Western Europe.[6]

PATHOPHYSIOLOGY

Dysregulation of the central nervous system causes excessive activation of the sympathetic nervous system, which in turn causes anxiety disorders.

They are distinguished by elevated noradrenergic activity and decreased serotonergic activity, which results in greater alertness and dread.

Control over stress reactions is further diminished when the GABAergic inhibitory system is compromised.

Neural processing of fear-inducing stimuli is altered by imbalances in corticosteroids and other neuromodulators.

Low-grade inflammation, environmental stresses, and genetic susceptibility all contribute to the development of disease and elevated cardiovascular risk.[7]

Common Approaches to Treating Generalized Anxiety Disorder (GAD)

Due to the dangers of dependence and abuse, benzodiazepines are now only used for temporary symptom alleviation in GAD treatment. Antidepressants are the cornerstone of treatment for long-term care. Due to their shown effectiveness and good safety profile, selective serotonin reuptake inhibitors (SSRIs) like paroxetine and serotonin-norepinephrine reuptake inhibitors (SNRIs) like venlafaxine are regarded as first-line treatments. A different non-benzodiazepine option is buspirone, a partial agonist of the 5-HT1A receptor, although its use is restricted due to its poor efficacy and delayed onset. It is advised to use psychotherapy, especially cognitive behavioral therapy, in addition to medication. No newer pharmacotherapies are currently authorized for routine clinical usage, despite the fact that a number of novel compounds are being investigated.

The Value of Medication for Generalized Anxiety Disorder (GAD)

By addressing the underlying neurobiological dysregulation involving the serotonergic, noradrenergic, and GABAergic systems, medication plays a critical role in the treatment of generalized anxiety disorder (GAD). In individuals with moderate to severe symptoms, where anxiety is chronic,

functionally debilitating, and unlikely to go away with non-pharmacological methods alone, medications are especially crucial.

Antidepressants, particularly selective serotonin reuptake inhibitors (SSRIs) and serotonin–norepinephrine reuptake inhibitors (SNRIs), are regarded as first-line treatments because of their demonstrated effectiveness in lowering the psychological and physical symptoms of anxiety as well as their capacity to prevent relapse over the course of long-term therapy. Additionally, pharmacotherapy improves overall clinical results and quality of life by addressing the substantial comorbidity of GAD with depressive illnesses.

While buspirone offers a non-sedative option for certain patients, short-term usage of benzodiazepines affords quick symptom alleviation during acute exacerbations. Pharmacological treatment improves functional recovery, lowers healthcare utilization, and enables patients to participate in psychotherapy more successfully. Combined treatment has demonstrated better results than either modality alone.[8,9]

2. CASE PRESENTATION

A 22 year old female patient was admitted to the hospital with chief complaints of excessive worring for last 3 months along with palpitations , Restlessness, Difficulty in sleeping , feeling tense and was unable to relax.

TABLE-1 PHYSICAL AND SYSTEMIC EXAMINATION

	DAY-1	DAY-2	DAY-3	DAY-4	DAY-5	DAY-6
TEMPERATURE (F)	98.4	98.3	98.4	98.6	98.4	98.4
BLOOD PRESSURE(mmHg)	130/85	128/82	126/80	128/84	126/82	124/80
PULSE(bpm)	102	98	96	94	90	88
CVS	S1S2 +	S1S2 +	S1S2 +	S1S2 +	S1S2 +	S1S2 +
P/A	Soft & non tender	Soft & non tender	Soft & non tender	Soft & non tender	Soft & non tender	Soft & non tender
RESPIRATORY SYATEM	NBS	NBS	NBS	NBS	NBS	NBS

TABLE-2 Haematological Patterns

Hb [13-17] g/dl	13.2
RBC [4.0-5.5] millions/cumm	4.6
WBC [4000-10000] cells/cumm	7800
Lymphocytes [15-30] %	28
Eosinophils [1-6] %	2
Monocytes [2-10] %	6
MCH [27-32] pg/cell	28

MCHC [31-35] gm%	33
MCV [49-80] fl	89
ESR – Males [0-10] mm 1st hr	10
Females [10-12] mm 1st hr	
Platelets [1-4] lakhs/cum	2.8
PCV [35-40] %	40
CT	4 min
BT	2 min
PT	13 Sec
APTT	32 Sec

TABLE-3 Liver Function Tests

BILI (T) [0.3-2.0] mg/dl	0.7
BILI (D) [0-0.6] mg/dl	0.2
BILI (ID) [0-0.4] mg/dl	2.4
SGOT (AST) [6-38] u/l	24
SGPT (ALT) [6-38] u/l	28
Alk. Phos [53-128] u/l	92
Globulin [2.0-3.5] g/dl	2.8
Albumin [3.5-5.2] g/dl	4.3

TABLE-4 Urine Analysis

COLOR	Pale yellow
APPEARANCE	clear
SPECIFIC GRAVITY	1.020
PH [5.0 – 8.0]	6.0
GLUCOSE	Negative
BLOOD	Negative
PUS CELLS	1-2
Epithelial Cells	2-3
KETONE BODIES	Negative

TABLE-5 Blood Glucose

FBS [70-110] mg/dl	92
RBS [110-180] mg/dl	124
PPBS [110-160] mg/dl	138
HbA1c	5.2

TABLE-6 Electrolytes

Na [136-146] mmol/l	139
K [3.5-5.0] mmol/l	4.1
Cl [98-107] mmol/l	101
Mg [1.6-2.8] mg/dl	1.9
Sr. Ca [8.4-10.8] mg/dl	9.4

TABLE-7 Renal Function Tests

Urea [12-42] mg/dl	26
Sr. Cr Male[0.6-1.1] mg/dl Female [0.5-0.9] mg/dl	0.8
Uric acid [2.6-7.2] mg%	4.1

TREATMENT CHART

S.NO	TRADE NAME	GENERIC NAME	DOSE	ROA	FRQ	CLASS	INDICATION
1	SERLIFT	SERTRALINE	50mg	PO	OD	SSRI	GAD,MDD,PANIC DISORDER
2	LONAZEP	CLONAZEPAM	0.25mg	PO	HS	Long acting BZD's	SEIZURE DISORDER, ACUTE MANIA, AKASTHISIA.
3	PAN-D	PANTOPRAZOLE + DOMPERIDONE	40mg	IV	OD	PPI& DOPAMINE D2 ANTAGONIST	GERD,GASTRITIS, PEPTIC ULCER, NAUSEA AND VOMITING
4	BECOSULES	B.COMPLEX VITAMIN	1 CAPSULE	PO	OD	MULTI VITAMIN SUPPLEMENT	VITAMIN B DEFICIENCY , MALNUTRITION, MOUTH ULCERS, FATIGUE.

3. DISCUSSION

The chronic mental illness known as generalized anxiety disorder (GAD) is characterized by excessive and ongoing worry that is accompanied by autonomic symptoms like palpitations, restlessness, sleeplessness, and trouble relaxing. In this instance, a 22-year-old woman exhibited characteristic anxiety symptoms for three months, including excessive worrying, palpitations, restlessness, disturbed sleep, and difficulty relaxing. These symptoms are compatible with the diagnostic criteria for generalized anxiety disorder (GAD).

Throughout the hospital stay, the patient's systemic and physical examinations stayed mostly within normal ranges. Even though there was modest tachycardia on day one (pulse rate of 102 bpm), a slow decrease in pulse rate over the next few days suggests that symptoms have improved after starting treatment. The temperature and blood pressure stayed constant, indicating that there was no acute infection.

Hematological, biochemical, renal, hepatic, thyroid, and electrolyte profiles, among other laboratory tests, were all within normal reference ranges. Tests for thyroid function were normal, so hyperthyroidism as a secondary cause of anxiety symptoms was effectively ruled out. The diagnosis of a fundamental psychiatric condition rather than an anxiety state resulting from metabolic abnormalities is further supported by normal blood glucose, renal, and liver function markers.

Sertraline, a selective serotonin reuptake inhibitor (SSRI) that is regarded as first-line treatment for GAD because of its effectiveness, tolerability, and safety profile, was part of the pharmacological treatments. Over time, sertraline improves mood and lessens anxiety symptoms by boosting serotonergic neurotransmission. A low dose of the long-acting benzodiazepine clonazepam was administered to treat anxiety, restlessness, and sleep difficulties in the short term. In order to give quick calming effects until antidepressants reach full therapeutic action, benzodiazepines are frequently utilized as adjuncts during the first phase of SSRI therapy.

In order to avoid gastrointestinal distress, which might result from either stress-related gastritis or as a side effect of antidepressant treatment, pantoprazole and domperidone were given together. Supplementing with vitamin B-complex was given to treat fatigue and avoid nutritional deficiencies, which are frequently linked to extended stress and inadequate dietary intake.

A positive therapeutic response is suggested by the steady improvement in vital signs, especially pulse rate, and the stability of clinical symptoms over several days. During the course of treatment, no noteworthy side effects or clinically significant drug interactions were noted. This emphasizes the significance of careful monitoring, sensible medication selection, and suitable dosage in the treatment of anxiety disorders.

In order to improve treatment results, clinical pharmacists play a critical role in diagnosing drug-related issues, keeping an eye on adverse drug responses, advising patients on medication adherence, and teaching them about the delayed start of antidepressant efficacy.

4. CONCLUSION

This case demonstrates how pharmaceutical therapy combined with clinical monitoring can effectively control generalized anxiety disorder. Clinical improvement was facilitated by early detection of anxiety symptoms, laboratory assessment to rule out secondary reasons, and start of appropriate first-line medication. Short-term clonazepam combined with sertraline as maintenance medication produced both instant and long-lasting symptom relief with little side effects.

Optimizing therapy, guaranteeing pharmaceutical safety, and improving patient adherence all depend on a multidisciplinary approach that actively involves clinical pharmacists. Patients with anxiety disorders can greatly enhance their quality of life with prompt care and sensible medication. In order to achieve successful therapeutic outcomes in psychiatric practice, this case highlights the significance of tailored treatment and ongoing monitoring.

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