

GENERALIZED ANXIETY
Pharmacology
Case Study #55

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OBJECTIVES

- Identify the target symptoms associated with generalized anxiety
- Recommend appropriate non-pharmacologic interventions to reduce anxiety
- Differentiate the therapeutic use and side effect profiles of benzodiazepines from those of buspirone
- Formulate a pharmaceutical care plan for the treatment of generalized anxiety

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PATIENT PRESENTATION

- 42 old woman referred to psychiatric out-patient clinic from family practitioner
- Chief complaint: "I feel nervous"
- 3 month history of nervousness, headaches, nausea, fatigue, and difficulty staying asleep

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PATIENT PRESENTATION (cont'd)

- At times feels like her mind has gone blank
- Problems concentrating on her job
- Worried about finances and paperwork at the office

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SOCIAL HISTORY

- Works as a research coordinator for a private research company conducting industry sponsored protocols
- Smokes 2 PPD
- Has 3-4 alcoholic drinks per week
- Drinks 3-4 cups of coffee per day

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History

- 5 year history of benzodiazepine use (diazepam, lorazepam, and clonazepam)
- Specialists and family practitioner have ruled out biological causes for somatic symptoms

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PHYSICAL EXAM

- Non obese
- Lab values all WNL
- B.P. 145/90 Average of 3 readings
- No other abnormal findings

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MEDICATIONS/ALLERGIES

- Alprazolam 0.5 mg q6h prn
- Used for past 3 years and takes 3-4 tablets per day
- Allergic to penicillin

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PSYCHIATRIC EVALUATION

- Three weeks ago a psychiatric evaluation led to a diagnosis of Generalized Anxiety Disorder (GAD)

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PROBLEM IDENTIFICATION

- Generalized Anxiety Disorder: Excessive worry about areas of life associated with a number of physical or psychological symptoms of anxiety; causes person great distress or impairment in social and occupational functioning.

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SYMPTOMS OF ANXIETY

- Physiological: palpitations, S.O.B., sweating, dry mouth, lightheadedness, diarrhea, nausea, flushes or chills, feeling shaky, restlessness
- Psychological: excessive worry, disordered sleep, difficulty concentrating, irritable

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GAD: DEFINITION (DSM-IV) 1994

- Occur nearly every day for at least 6 mnths
- Must exhibit at least 3 of these 6 symptoms
 - restlessness/feeling keyed up
 - easily fatigued
 - difficulty concentrating
 - irritability
 - muscle tension
 - sleep disturbance

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EPIDEMIOLOGY OF GAD

- AFFECTS ABOUT 10 MILLION AMERICANS
- OCCURS IN AT LEAST 2% TO 3% OF THE POPULATION
- MORE COMMON IN WOMEN
- USUAL ONSET IN THE 3 DECADE BUT CAN HAVE ITS ONSET IN CHILDHOOD
- TENDS TO BE A CHRONIC AND RECURRING PROBLEM

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DESIRED OUTCOME

- Experience fewer anxiety provoking situations
- Comfortably engage in a daily schedule of work and social activities
- Sleep a minimum of 6 hours at a time
- Relief from the physical symptoms of anxiety
- Prevent relapse

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THERAPEUTIC ALTERNATIVES

- Non-pharmacologic interventions
- Pharmacotherapeutic

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NONPHARMACOLOGIC INTERVENTIONS

- COGNITIVE: Identify self-defeating, irrational thoughts and beliefs
- BEHAVIORAL: Controlling anxiety through alteration of behavioral response to anxiety provoking cues

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PHARMACOLOGIC INTERVENTIONS

- Mainstays:
 - Benzodiazepines
 - Buspirone
 - Beta Blockers

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BENZODIAZEPINES

- MODE OF ACTION ON GABA RECEPTORS
- RAPID ACTION
- CNS DEPRESSION
- MOST COMMONLY PRESCRIBED ANXIOLYTICS
- SHORT COURSE THERAPY RECOMMENDED
- DEPENDENCE WITH LONG TERM USE
- USE WITH CAUTION IN ELDERLY, DEBILITATED
- PREGNANCY CATEGORY D [ALPRAZOLAM]

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BUSPIRONE

- MODE OF ACTION: SEROTONIN AGONIST
- TAPERED AND WITHDRAWN EASILY
- WELL TOLERATED IN MEDICALLY ILL & ELDERLY
- DOES NOT AFFECT COORDINATION OR COGNITION
- LITTLE INTERACTION WITH ALCOHOL
- SLOW ONSET [4-6 WEEKS]
- PREGNANCY CATEGORY B

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BETA BLOCKERS

- NOT APPROVED FOR ANXIETY
- USEFUL IN RELIEVING SOMATIC MANIFESTATIONS OF ANXIETY
- MODE OF ACTION: PRE AND POST SYNAPTIC ALPHA-2 RECEPTORS
- SIDE EFFECTS: LETHARGY AND DEPRESSION

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OTHER PHARMACOLOGIC INTERVENTIONS

- MEPROBOMATE
- BARBITURATES
- ANTIHISTAMINES
- SSRI'S
- TCA'S

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PHARMACOTHERAPEUTIC REGIMEN

- TAPER BENZODIAZEPINE Decrease dose by 0.25 mg q 7 days.
- START BUSPIRONE 5 mg bid, increasing gradually to 20 to 40 mg per day. May take 4-6 weeks to reach full effect.
- START BETA BLOCKER atenolol 25 mg q.d.

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TAPERING BENZODIAZEPINE

- Week 1 1.75 mg per day
- Week 2 1.50 mg per day
- Week 3 1.25 mg per day
- Week 4 1 mg per day
- Week 5 .75 mg per day
- Week 6 .50 mg per day

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ASSESSMENT PARAMETERS

- Needs to be closely monitored until stable
- Return in 1 week for B.P. check
- Withdrawal symptoms from BZ
- Review tapering schedule for BZ
- Assess for relief of anxiety symptoms

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ASSESSMENT PARAMETERS

- Attendance at Mental Health Clinic
- Success practicing coping skills
- Ask about side effects of buspirone

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PATIENT COUNSELING

- SIDE EFFECTS OF BUSPIRONE
 - dizziness 12%
 - nausea 8%
 - headache 6%
 - nervousness 5%
 - lightheadedness 3%
 - agitation 2%

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Patient counseling

- Benzodiazepine withdrawal
 - anxiety
 - shakiness
 - insomnia
 - GI upset
 - Perceptual distortion (hyperacusis, hyperosmia, hyperesthesia)
 - Confusion/hallucinations/ seizures

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PATIENT COUNSELING

- REASSURANCE
- STOP SMOKING
- AVOID ALCOHOL
- LIMIT CAFFEINE
- EXERCISE

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COST COMPARISON OF ALPRAZOLAM AND BUSPIRONE

• Alprazolam (0.5 mg qid)	• Buspirone 10 mg bid)
• \$.03 per unit	• \$.62 per unit
• \$.12 per day	• \$ 1.24 per day
• \$3.60 per month	• \$37.20 per month

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