SUSPECTED BUPROPION INDUCED DELUSIONAL DISORDER

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- Conflict of Interest: None to declare

CONFLICT OF INTEREST STATEMENT/ DISCLOSURES.

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- Learn about the etiology and risk factors associated with Delusional parasitosis.
- Learn about the treatment approach for delusional parasitosis.

OBJECTIVES

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INTRODUCTION

- DP. Is a rare but debilitating syndrome. False belief of infestation by worms, insects, parasites/
- Can be associated with tactile hallucinations/formication and also Visual hallucinations. DSM 5 – Delusional disorder , Unspecified psychosis +/- AVH
- Primary. No other known organic causes.
- Secondary. Concomitant symptom e.g association with schizophrenia, depression, ocd, dementia, amphetamines, cocaine, diabetes, other medical illness or as side effects of medications., Vitamin deficiency.

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PRESENTATION

- Occurs mostly in middle age or elderly females. Men can be affected.
- Easy to recognize, clinical management is challenging
- Matchbox sign/ Ziplock sign/ specimen sign.
- Description of symptoms; crawling, stinging, biting, stickiness, greasy hands. Sliminess
- Multiple consults. FM, Dermatology, Psychiatry.
- Self cleansing , excoriations,
- Shared psychotic disorder. -

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POLL QUESTION

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ETIOLOGY-
(CASE -REPORTS)

Multifactorial

-Pellagra

-B12 def

-Folate

-Scabies

-Cocaine, Meth

-Narcotics

Medications – suspected DI	
1. Anti-parkinosonian	-Carbidopa, Levodopa, ropinirole, pramipexole, carbegoline, amantadine
2. Antidepressants	- Bupropion, fluoxetine + stimulant, trazodone,TCA, phenelzine
3. Prescription stimulants	-All even Atomoxetine
4. Antihypertensives	- propranolol, hydralazine
5. Antiepileptics	- Topiramate, phenytoin, lamotrigine, lacosamide
6. Antiretroviral – Efavirenz (high levels) – Higher levels – use of Rifampin protective against DI.	
7. Eszopiclone , ciprofloxacin	

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CASE 1.

- ID / HPI (Jan 04/2022) Poor historian
- JC 71 year old female with Hx of depression, HF, Afib, DM, chronic pain, who presented primarily for hallucinations.
- Seeing bugs everywhere, in the house, on food, on her body for 5 weeks.
- Reality testing was intact but was preoccupied with the infestation to an extent of decreased oral intake , decreased sleep etc.
- Medications changes, she reported recent medications changes but unclear on the specifics.
- Did admit to chronic feelings of depression, difficulties with sleep initiation, +guilt, +hoplessness, poor concentration, reduced appetite, +SI without a plan.
- + non specific anxiety, No Hx of mania, + VH.

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PAST HISTORY

- Medications trials , Setraline (current Bupropion, Buspirone, citalopram and mirtazapine, donepezil, Narco, levothyroxine, pregabaline, duloxetine, Flomax, furosemide, ferrous sulphate, amiodarone, apixaban, metformin, lidocainepatch)
- No previous hospitalizations
- PHx of depression and anxiety , HX of HTN, diabetes.
- Allergies – Zoloft
- Hx of visual hallucinations with unknow medication in the past.

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HISTORY …

- Mother – depression.
- No known SA in family.

Medical ROS – Back pain, neck pain, Flexed neck ? Atherocollis – required soft collar in the hospital.

Psych Review of system – As above. 5lb weight loss in 1.5months.

Physical exam unremarkable

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SOCIAL

- Hamburg IA
- Education HS
- Living in apartment with grandson (was working 12hrs/ shift)
- No previous SA, No access to fire arms
- SUBSTANCE – No tobacco , no recreational drugs, no alcohol use
- Retired.

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VITALS / LABS

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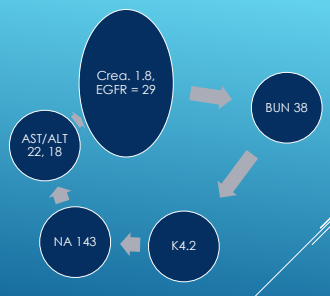
-UDS, + OPIATES
-UA , NEG .
- ETOH-NEG
- POCT 132, A1C 6.2
-TSH 5.3
+MG 2.2, PHO 2.1, ALK PHOSP, 119



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- Elderly with fair grooming, hunched posture (neck)
- Calm cooperative, no abnormal movements, speech normal prosody
- Mood " Yucky' , Affect neutral
- Thought process Linear, Content ; No Delusions, No SI/HI,
- Sensorium: Visual hallucinations , not responding
- Memory ; Intact ,
- Insight and judgement: fair

MSE,

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- # unspecified Psychosis
- # DDX MDD with psychotic features.
- # DDX Lewy body dementia
- Plan – Start low dose quetiapine 50. Home medications restarted, (citalopram 10mg bid, mirtazapine 15mg, bupropion 300mg, buspirone 10bid.

ASSESSMENT

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PROGRESS

- Day 2 , bugs crawling out of iv line , Seroquel increased 100mg , decreased Wellbutrin to 150mg.
- Day 3, increased somnolence, seeing insects. SLUMS 19/30, MNCD, suspected Lewy Dementia, Aricept 5 mg initiated, Seroquel 150mg , increased duloxetine , cross titration with citalopram.
- Day 4 : seeing bugs, some improvement
- Day 5 : VH++, was requesting to DC/ for her birthday, increased Seroquel 200mg
- Day 6: VH + but diminished, Seroquel 250mg, Cymbalta increased to 60, continued Aricept.
- Day 7. Discharge requests, AVH not documented on notes, no med changes.
- Day 8. Discharged, Consults – FM for diabetes. DC / 01/13/2022

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ADMISSION TO MEDICAL

- 02/01/22- PCP , leg pain , fever chills, SOB. No reprted AVH. Fever 100.9, confused, crawling out of bed.
- Labs mild leukocytosis, low hb , crp 12.7, BC negative , Admitted for cellulitis. – blood cultures neg.
- Cephalexin QID 500mg for 10days.
- NOTE: Wellbutrin restarted but at 300mg. All other meds were same dosages as before

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PHARMACY MED REC/ PSYCH CONSULT

- Difficult to ascertain what she was actually taking. / 02/02/22
- Patient denied hallucinations to psych consult team at that time. 02/03/22- no changes were med from psych.
- Discharged from medical on 02/03/2022.

(all other previous medications + 300mg Wellbutrin + cephalexin)

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3/15/2022 - READMISSION

- Worsening visual hallucinations after medication change. January 2022 worse leading to admission.
- Reported hallucinations were continuous but wanted to be discharged. Seroquel helped decrease the hallucinations.
- HHN brought her due to observed distress as patient was sweeping up bugs that were not available.
- +Tactile and visual hallucinations, bugs are crawling on the walls, floor, and underneath her skin, " can feel them biting" pulled out "flies and spiders from skin".
- She did report medication compliance. un

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- inconsistent sleep ,
- + Si no plan, potential OD with tramadol.
- No documented Ziplock sign/
- Physical exam, positive for numerous areas of bruising
- Labs no significant changes

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- Unspecified psychosis

DDX;

-Mood disorder with psychotic features

-Medication induced Delusional disorder

-Medications non compliance ?

-Lewy Body dementia

- Started Seroquel at 150mg
- Admission to Gero psych

PLAN/ IMPRESSION

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PROGRESS

- Day 2 , Sleeping poorly, bugs crawling on the bed, and biting her. Seroquel increase to 200HS plus day time 50 bid. Patient was picking and scratching her legs. No apparent auditory hallucinations. No changes to other meds.
- Day 3. - Mentioned of bugs biting, she did show some depigmentation on her skin to justify. Depressive symptoms. Discussed with patient on need to decrease Wellbutrin and switch with Prozac. Only medication noted to influence DAT (Wellbutrin).
- Other risks were identified. CKD, Low HB, and others. Wellbutrin 150mg , Prozac 10mg
- Day 4: some crawling , Seroquel increased to 250mg. , dc Wellbutrin
- Day 5: intermeittent crawling , seroquel increased to 300mg. Increased Prozac to 20mg.
- Day 6 and 7 no crawling No SI/ HI. Discharged Home.

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RISK FACTORS SPECIFIC FOR THIS PATIENT

- Multiple medications / coomorbidoties
- Diabetes, Low iron saturations, narcotics,
- Living by herself most of the time
- Note- Wellbutrin adjustments
- EGFR / elevated Creatinine

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PATHOPHYSIOLOGY

- Little is known -about the neurobiological mechanisms that may be responsible for symptoms of DP.
- Hypothesized that deteriorated functioning of striatal dopamine transporter (DAT), which also corresponds to an increased extracellular dopamine level, could potentially be an important etiological factor for both (primary and secondary) forms of DP
- DAT is a pivotal regulator of dopamine reuptake in the brain, particularly in the striatum.
- Medications that inhibit presynaptic dopamine reuptake at the dopamine transporter (cocaine, amphetamines, pemoline, and methylphenidate) can induce the symptoms of delusional infestation.

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PATHOPHYSIOLOGY…

- Many disorders, including schizophrenia, depression, TBI, alcoholism, Parkinson's and Huntington's diseases, HIVinfection, and iron deficiency, all of which may cause secondary or organic forms of delusional parasitosis, have been shown to involve diminished DAT functioning.
- It seems that antipsychotics could improve the symptoms of delusional parasitosis in the majority of patients by decreasing the abnormally high dopamine transmission.

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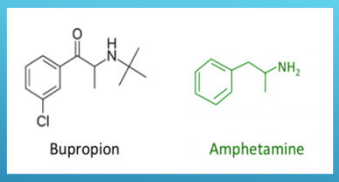

CHEMICAL STRUCTURE OF BUPROPION VS METHAMPHETAMINES.

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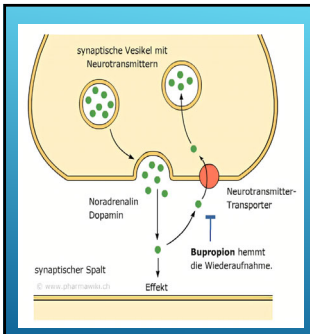

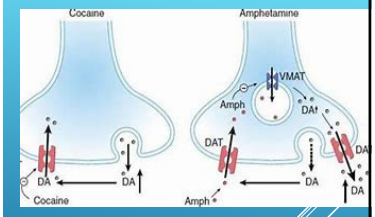

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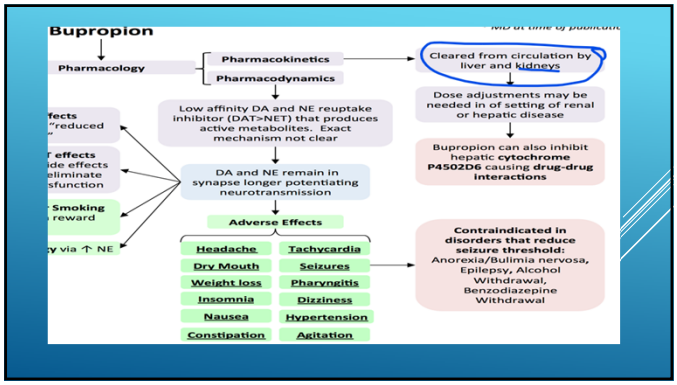
Bupropion
Pharmacology
Pharmacokinetics
Pharmacodynamics
Cleared from circulation by liver and kidneys
Dose adjustments may be needed in of setting of renal or hepatic disease
Bupropion can also inhibit hepatic cytochrome P4502D6 causing drug-drug interactions
Low affinity DA and NE reuptake inhibitor (DAT>NET) that produces active metabolites. Exact mechanism not clear
DA and NE remain in synapse longer potentiating neurotransmission
Adverse Effects
Headache
Dry Mouth
Weight loss
Insomnia
Nausea
Constipation
Tachycardia
Seizures
Pharyngitis
Dizziness
Hypertension
Agitation
Contraindicated in disorders that reduce seizure threshold: Anorexia/Bulimia nervosa, Epilepsy, Alcohol Withdrawal, Benzodiazepine Withdrawal

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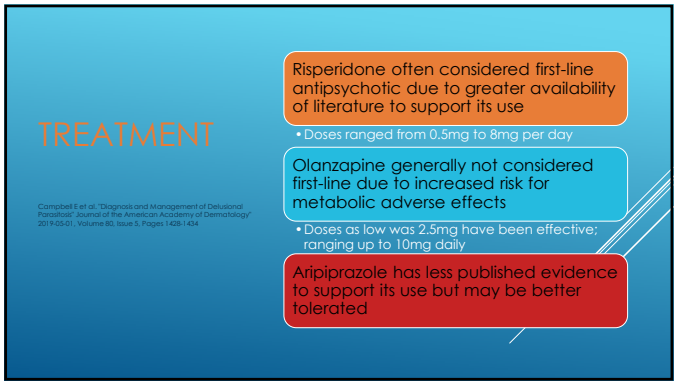
TREATMENT
Campbell E et al. "Diagnosis and Management of Delusional Parasitosis" Journal of the American Academy of Dermatology" 2019-05-01, Volume 80, Issue 5, Pages 1428-1434
Risperidone often considered first-line antipsychotic due to greater availability of literature to support its use
• Doses ranged from 0.5mg to 8mg per day
Olanzapine generally not considered first-line due to increased risk for metabolic adverse effects
• Doses as low was 2.5mg have been effective; ranging up to 10mg daily
Aripiprazole has less published evidence to support its use but may be better tolerated

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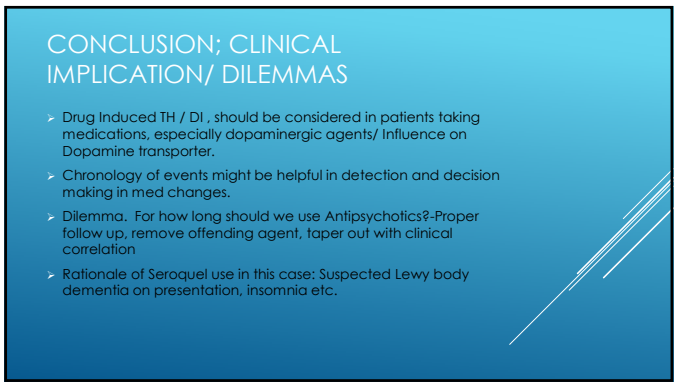
CONCLUSION; CLINICAL IMPLICATION/ DILEMMAS
Drug Induced TH / DI , should be considered in patients taking medications, especially dopaminergic agents/ Influence on Dopamine transporter.
Chronology of events might be helpful in detection and decision making in med changes.
Dilemma. For how long should we use Antipsychotics?-Proper follow up, remove offending agent, taper out with clinical correlation
Rationale of Seroquel use in this case: Suspected Lewy body dementia on presentation, insomnia etc.

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POLL QUESTION

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REFERENCES

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