# Psychiatry in the Emergency Room

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## Objectives

- Discuss "medical clearance" for patients presenting with psychiatric symptoms
- Understand factors to help differentiate between medical and psychiatric illness
- Review of psychotropic medications used in the emergency setting
- Learn the principles of managing psychiatric emergencies

## Introduction

- A recent analysis found annual number of ED visits increased 20% over a 10 year period (1991-2001)
- About 5.5% of all ED visits during this period were due to a primarily mental health problem
- Per-person trend for psychiatric ED visits increased almost 40%
- Greatest increase seen in the over-70 group: from 46.4 to 64.1 mental health visits/1000 ED visits
- Majority of visits related to mood and anxiety complaints

Larkin et al., 2005

## Why more ED visits?

- Decrease in mental health care budget
- EMTALA
- Less resources available to patients
- 24-hour accessibility
- Comparative ease of access
- Increased consciousness about mental health issues

Larkin et al., 2005

## Role of the ED Physician

- Rapid assessment and stabilization of all patients
- Assess and treat all acute medical conditions
- Provide "medical clearance"

## What is most important for medical clearance?

1. Chemistry
2. Urine drug screen
3. BUN/creatinine
4. Physical exam
5. History

## "Medical Clearance": What is it?

- No overall consensus
- Means different things to different physicians
- Short term stability, assuming the receiving facility can monitor and continue treatment[1]
- "Focused medical assessment"[2]
  - Medical etiology excluded
  - Acute illness/injury identified and treated

1.Massachusetts College of Emergency Physicians, 2007 2. Lukens et al., 2006. Broderick, et al., 2001

## Medical Clearance: What is it?

- Evidence that a careful hx, ROS may be more effective in identifying medical problems
  - One study found history alone had a 94% sensitivity[1]
- Low yield for most laboratory tests
  - Utox
  - BAL
- Stratification necessary
  - "Low" vs. "High" risk

1. Olshaker et al., 1997, Broderick et al., 2001, Gregory et al., 2004

## Medical Clearance: "Low Risk"

- Established psychiatric hx/diagnosis
- Lack of specific medical complaint/negative ROS
- No physical/neurological findings
- Stable VS
- Normal (age appropriate) memory and concentration

Massachusetts College of Emergency Physicians, 2007

## Medical Clearance: "High Risk"

- New symptoms
- Specific physical/neurological complaint
- Lack of psychiatric hx/diagnosis
- Older adult
- Comorbid medical conditions
- Polypharmacy
- Substance abuse

Gregory et al., 2004

## Medical Clearance

- History
  - HPI including temporal course of symptoms, recent stressors
  - PMH
  - Past psychiatric history
  - Medications including recent changes, adherence
  - Drug and alcohol use
  - Family history of psychiatric disorders
- Vital signs

Massachusetts Medical College of Emergency Physicians, 2006

## Medical clearance

- Brief MSE including cognitive exam/orientation
- Focused physical and neurological exam
  - Driven by history and chief complaint
- Selected diagnostic work-up
  - Guided by clinical presentation and physical/neurological findings

Massachusetts College of Emergency Physicians, 2006

## "Medical Mimics" of Psychiatric Disorders

- Many medical disorders have psychological-behavioral manifestations
- Sometimes the first signs and symptoms are psychiatric
- Patients with psychiatric histories with significant medical comorbidity
  - Estimates range 7-63%
  - One study found 63% of "new" psychiatric patients had organic etiology for presentation[1]

1. Henneman and Mendoza, 1994, Gregory et al., 2004

## The Divine MD

- D drug abuse
- I infectious disease
- V vascular disorders
- I immunologic/inflammatory disorders
- N nutritional/vitamin deficiences
- E endocrine disorders
- M metabolic disorders
- D degenerative/demyelinating diseases
- T trauma
- E epilepsy
- S structural disorders
- T toxins/heavy metals

Brewerton, 1985

## Clues to distinguish medical from primary psychiatric disorder

- New symptoms, especially in older adult
- Abrupt presentation
- Atypical presentation
- Presence of positive ROS
- Extensive PMH
- Polypharmacy
- History of medication change

Hillard and Zitek, 2004

## Clues to distinguish medical from primary psychiatric disorder

- History of poor medication adherence
- No personal or family history of psychiatric illness
- Visual, tactile, olfactory hallucinations
- Altered/variable level of consciousness
- Presence of abnormal VS, lab data, PE/neuro exam
- Lack of expected response to treatment

Hillard and Zitek, 2004

## Specific Scenario: Delirium

- Approximately 26-40% older ED patients with cognitive impairment or delirium[1]
- Only 17-33% with cognitive impairment or delirium recognized by ED physicians[1]
- One study found 26% of ED patients during a 12 month period had mental status impairment (38% of these were delirious)[2]
- Of these, only 28% had documentation of mental status impairment[2]

1.Sanders, 2002, 2.Hustey and Meldon, 2002

## Delirium

- Acute alteration in level of consciousness
- Waxes and wanes
- Presence of hallucinations, typically visual
- Disorientation, memory impairment, other cognitive deficits
- Evidence of a medical cause
- Risk factors
  - Elderly
  - h/o dementia
  - Multiple medical problems
  - Polypharmacy, medication changes
  - Substance abuse

## Emergency Psychopharmacology

- Agitation
- Assaultive behavior
- Anxiety
- Acute mania
- Acute psychosis
- Substance intoxication/withdrawal

## What is the most important consideration in choosing a medication for control of agitation?

1. Route
2. Rapidity of onset
3. Duration of action
4. Medical co-morbidities
5. Patient preference

## Emergency Psychopharmacology: Important Considerations

- Route
- Rapidity of onset
- Duration of action
- Medical co-morbidities
- h/o previous ADR/allergy
- Need for co-administered medications

## Emergency Psychopharmacology: Important Considerations

- Other patient factors
  - Age/frailty
  - Concurrent medications
  - Substance abuse history
  - Patient preference
- Previous/future treatment

## What is the preferred medication for control of acute agitation?

1. A benzodiazepine
2. Haloperidol IM
3. An atypical antipsychotic po
4. Combination of antipsychotic + benzodiazepine

## Expert consensus guidelines for treatment of behavioral emergencies American Association for Emergency Psychiatry, 2005

- When dx uncertain, oral lorazepam or risperidone are recommended
  - If IM required, lorazepam
  - IM ziprasidone, olanzapine, haloperidol are alternatives
  - IM atypicals less desirable when medical comorbidity or intoxication present
- When dx known (mania, psychotic disorder), oral olanzapine and ziprasidone also considered highly effective as first-line agents

Allen et al., 2005

## Expert consensus guidelines for treatment of behavioral emergencies
American Association for Emergency Psychiatry, 2005

- Oral, especially liquid formulations, preferred over IM
- IM atypicals regarded as effective alternatives to IM haloperidol
- Combination treatment of an atypical + benzodiazepine was endorsed, except in case of olanzapine
- If general medical condition present and determined to be the cause of the agitation, panel recommended limiting medication, or if required, oral haloperidol or risperidone or IM haloperidol

Allen et al., 2005

## Clinical policy for treatment of psychiatric patients in the ED*
American College of Emergency Physicians Clinical Policies Subcommittee, 2006

- If etiology of agitation unknown, benzodiazepines or haloperidol preferred
- If etiology of agitation is known, would use medication appropriate for agitation and initial drug therapy
- Droperidol recommended as alternative to haloperidol for quick sedation
- Oral benzodiazepine + antipsychotic preferred in agitated but cooperative patients (lorazepam + risperidone)

*medically stable patients

Lukens et al., 2006

## Benzodiazepines

- Midazolam
  - IM, IV, liquid
  - Typical dose 1-2 mg IM
  - Very quick onset, short duration of action
    - IM – within 5-15 minutes
  - May be a preferred agent for quick sedation

Nobay et al., 2004, Stahl, 2005. Marco et al., 2005

## Benzodiazepines

- Lorazepam
  - IM, IV, po (tablet, liquid)
  - Typical dose 1-2 mg IM/IV/po
  - Quick onset, short to moderate duration of action
    - IM about 15-20 minutes
  - Good for agitation, anxiety, adjunctive use with antipsychotic
  - EtOH or benzodiazepine withdrawal

Allen, 2000, Stahl, 2005. Marco et al., 2005

## Other benzodiazepines

- Diazepam
  - IM, IV, po (tablet, liquid)
  - Long half-life
- Chlordiazepoxide
  - IM, po
  - Long half-life, lack of quick onset, IM form not well absorbed
  - Alternative to lorazepam for EtOH withdrawal for moderate to heavy users, with h/o withdrawal, sz, DTs
- Clonazepam
  - po (tablet, quick dissolve wafer)
  - Long half-life, lack of quick onset
- Alprazolam
  - po (tablet, liquid)
  - Duration of action limited
  - On/off or rebound effect

## Conventional Antipsychotics: Haloperidol

- Most often used conventional antipsychotic
  - IV, IM, po (tablet, solution), depot
  - Not as sedating
- Dosing starts 2-5 mg, 0.5-1 mg for elderly/frail patients
- Onset within 30-60 minutes
- May repeat dose after 30min-1hour if no or minimal effect

## Conventional Antipsychotics: Haloperidol

- Higher incidence of EPS with IM, po
  - Dystonias
  - Akathisia
  - Parkinsonism
  - Use in combination with anticholinergic agent, benzodiazepine
- QT interval prolongation with IV haloperidol

## Atypical Antipsychotics

- Studies indicate at least equivalent efficacy to haloperidol
- May be preferred because of lower incidence of EPS
- Three atypical antipsychotics available in IM forms and approved for use in agitation in schizophrenia +/- mania
  - Ziprasidone
  - Olanzapine
  - Aripiprazole
- All atypical agents approved for treatment of acute mania and schizophrenia

## Atypical Antipsychotics: Ziprasidone

- Comes in po and IM
- IM formulation in 10mg, 20mg
- Onset within 15-30 minutes
- May repeat dosing 10 mg q2h or 20 mg q4h, NTE 40 mg/24h
- Not as sedating
- May use with benzodiazepine
- QT interval prolongation?

Mendelowitz, 2001, Preval et al., 2005

## Atypical Antipsychotics: Olanzapine

- Comes po and IM
  - po tablet, dissolving wafer (Zyprexa Zydis™)
  - IM formulation comes in 5mg, 10 mg
    - Max plasma concentrations higher than oral
- Onset within 15-45 minutes
- May repeat dose within 2h, then q4-6h prn, NTE 30 mg/24h

pi.lilly.com/us/zyprexa-pi.pdf, Wright et al., 2001

## Atypical Antipsychotics: Olanzapine

- Sedating
- May cause orthostasis
  - h/o cardiovascular disease
  - Patients prone to hypotension
  - Concurrent BP lowering agents
  - May need to adjust dose for special populations
- Caution with benzodiazepines

pi.lilly.com/us/zyprexa-pi.pdf, Wright et al., 2001

## Atypical Antipsychotics: Aripiprazole

- Comes in po (tablet, solution), dissolving (Abilify Discmelt™) and IM
- po dosing ranges from 2.5 mg – 15 mg
  - Probably not best for treating acute agitation
- IM dose 9.75 mg (range 5.25 mg – 15 mg)
- Onset within 30-45 minutes
- May repeat q2h to max of 30 mg/24h
- Not as sedating

Andrezina et al., 2006, Tran-Johnson et al., 2007

## Atypical Antipsychotics: Risperidone

- Comes in po (tablet, solution), dissolving wafer (Risperdal M-tab™), depot
- No IM formulation
- Typical dosing is 1-2mg, 0.5-1mg if elderly/frail
- Onset within 30-60 minutes
- May repeat dose after 2h

Currier et al., 2001, Currier et al., 2004

## Atypical Antipsychotics: Risperidone

- Not as sedating
- May use with benzodiazepine
- May cause orthostasis, tachycardia
  - h/o cardiovascular disease
  - Patients prone to hypotension
  - concurrent BP lowering agents
- At doses >6 mg may see EPS

Currier et al., 2004 , Currier et al., 2001

## Atypical Antipsychotics: Quetiapine

- Comes in po only
- Dose range 12.5 mg – 50mg
- Onset within 120 minutes
- May repeat in 2h, NTE 100 mg in first 24h
- Sedating
- May cause significant orthostasis, limits use in emergency situations
- Alternative to benzodiazepines for patients who are anxious and with mild agitation

Currier et al., 2006

## What is the primary goal of emergency intervention with an agitated patient?

1. Medical clearance
2. Sedating them
3. Establishing a diagnosis
4. Involving the patient in the treatment
5. Calming them without sedation

## Management of Psychiatric Emergencies

- Recent expert consensus guidelines outlined overall management of behavioral emergencies
- Included goals of emergency intervention
  - **Calming the patient without sedation**
  - Involving the patient in care
  - Preserving safety
  - Facilitate the resumption of more typical physician-patient relationship
  - Obtain informed consent if possible
  - Promote best possible long-term outcome

Allen et al., 2005

## General Management Principles

- Allen et al., 2003 surveyed consumers' preferences during a psychiatric emergency
  - Emphasized treatment with respect
  - Collaboration
- Nonpharmacological approach preferred
  - Engage patient in decision making – e.g., "What do you think would be most helpful right now?"
  - Offer patient specific options
- Offer oral medications
  - Offer choices
  - Patients prefer benzodiazepines over antipsychotic medication

Allen et al., 2003

## General Management Principles: When to resort to IM medications?

- Signs of escalation
  - Increasing agitation
  - Verbal threats
  - Physical aggression
- Unable to engage in discussion or respond to limits
- Refusal to take oral medications
- Imminent threat to safety

## Assaultive behavior

- Immediate action required to preserve safety of patient, staff, others
- Generally, restraints first
- IM/IV medication
  - Etiology of assaultive behavior if known can guide choice, e.g., due to psychosis, prefer antipsychotic medication +/- benzodiazepine

## Paranoia

- Sometimes difficult to predict escalation to agitation or assaultive behavior
- Engage patient in a nonconfrontational, neutral manner
- Avoid sustained direct eye contact
- Allow for enough space for patient, interview with door open and easy access to exit
- Offer food, drink, other things that might make the patient more comfortable (nicotine replacement!)
- Early offer of oral medications

## Anxiety

- Start with nonpharmacological approach
  - Direct query of patient's immediate needs
  - Offer concrete choices
- Offer oral medication
- If anxiety escalates to agitation or assaultive behavior may need to administer IM/IV medications

## Summary

- No absolute consensus on medical clearance
- Stratification of high and low risk of medical illness is necessary
- Medical illness can frequently present with psychiatric symptoms
- Careful review of history probably most important in identifying medical etiology

## Summary

- Choice of medication for a behavioral emergency includes consideration of medication characteristics, specific patient profile, and patient preference
- Benzodiazepines recommended when etiology of agitation unknown
- When etiology of agitation is mania or psychotic disorder, oral atypical antipsychotics are considered first-line
- IM atypicals are alternatives to IM haloperidol

# Summary

- Overall management of psychiatric emergencies encompasses a reasoned approach that aims to preserve safety, allow for a comprehensive medical assessment, deliver appropriate and compassionate treatment, and include the patient in his/her care

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