

A TOXIC BLOOM

By

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- 25-year-old female brought to ED with **alleged history of self-consumption of UNKNOWN SUBSTANCE** about x hours ago.

Complaints:

- Confusion / agitation
- Dry mouth
- Blurred vision
- Palpitations
- 2-3 episodes of vomiting.
- No history of trauma, seizures.

PRIMARY SURVEY

- AIRWAY: patent.
- BREATHING:
 - RR:28/min,spo2:98% on R.A,B/L air entry equal
- CIRCULATION:
 - B.P: 130/80, P.R:120/min
- DISABILITY:
 - gcs:E4V4M6,Pupils: B/L dilated and sluggish reactive to light.
- EXPOSURES: skin redness present
- ECG: sinus tachycardia, Temperature:100.1°F

- **Past History:**
- No significant past medical history.
- No known allergies.
- **Medications:** None.

- **Personal / Social History:**
- Alleged suicidal attempt.
- No alcohol or substance abuse reported.

-  **Examination Findings**
- **General Appearance:**
 - Agitated, disoriented, flushed
 - Pupils: **Dilated, sluggish reaction to light**
 - Skin: **Hot and dry**
 - Mucosa: **Dry mouth**



Undilated Pupil



Dilated Pupil



- HB:13.7
- TLC:24470
- PLATELET:109000
- NA+:143
- K+:5.5
- CL-:107
- UREA:24
- CREAT:0.7
- ABG:

pH	7.35
pCo2	42
Lactate	2.6
Hco3	23.2

MANAGEMENT

- Inj. Midazolam
- Inj. Pantoprazole 40 mg OD
- Inj. Ondancetron 4mg TDS
- Tepid sponging



 **Diagnosis: Datura (anticholinergic)
poisoning**



Datura (also called Jimson weed or Angel's trumpet) contains **alkaloids**:

- **Atropine**
- **Scopolamine (hyoscine)**
- **Hyoscyamine**

These are **potent anticholinergic (antimuscarinic) agents**.

🌀 Mechanism of Action

🌀 Step 1: Normal Physiology

Acetylcholine (ACh) acts on **muscarinic receptors (M1–M5)** in the **central and peripheral** nervous systems.

It maintains “*rest-and-digest*” parasympathetic functions:

→ Salivation, lacrimation, urination, digestion, sweating, pupillary constriction, etc.

Step 2: What Datura Does

Datura's alkaloids **competitively block muscarinic (M) receptors** — **without affecting nicotinic receptors**.

Receptor	Normal Function	Effect of Datura
M1 (CNS, gastric)	Cognition, memory	Confusion, delirium, hallucinations
M2 (Heart)	Slows heart rate	Tachycardia
M3 (Glands, eyes, smooth muscle)	Salivation, urination, accommodation	Dry mouth, urinary retention, mydriasis, blurred vision
M4/M5 (CNS)	Dopaminergic modulation	Agitation, delirium

DISCUSSION

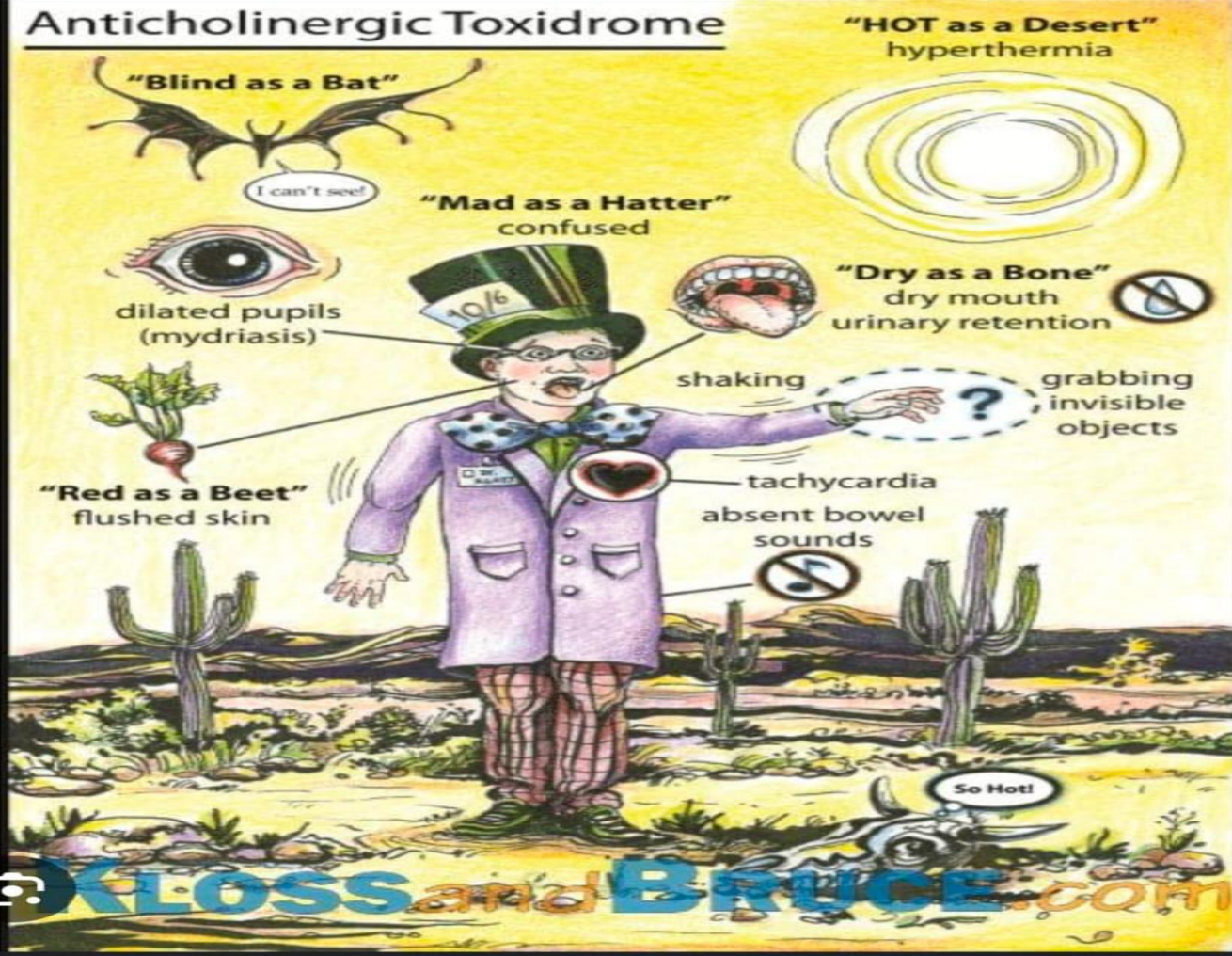
- IN ANY CASE OF POISONING IT IS IMPORTANT TO LOOK FOR TOXIDROMES.
- What is toxidromes?
- It's a group of symptoms specific for certain group of poison.
- It helps to early initiation of management.

Classical Anticholinergic Toxidrome

Features:

- **Hot as a hare** (fever)
- **Dry as a bone** (dry skin/mouth)
- **Blind as a bat** (mydriasis, blurred vision)
- **Red as a beet** (flushed skin)
- **Mad as a hatter** (confusion, hallucinations)

Anticholinergic Toxidrome



-  **Emergency Management**
- **Airway, Breathing, Circulation** – Stabilize
- **IV access, monitoring, oxygen**
- **Activated charcoal {dose 1 gm/kg}** if within 1 hour of ingestion and airway protected.
- **Benzodiazepines** (diazepam/lorazepam) for agitation or seizures
- **Physostigmine (antidote)** – can be used cautiously in severe cases under monitoring
- **Supportive care:** IV fluids, cooling measures for fever
- **Continuous cardiac monitoring** for arrhythmias

-  **Antidote (Physostigmine)**
- Indicated in severe anticholinergic toxicity with life-threatening agitation or arrhythmias
- **Dose:** 0.5–2 mg IV slowly over 5 min (adult), may repeat after 10–15 min
- Must have resuscitation facilities available
-  **Physostigmine: The Antidote**
- **Class:** Reversible cholinesterase inhibitor
Mechanism: Inhibits acetylcholinesterase → ↑ Acetylcholine → Reverses both central and peripheral anticholinergic effects.

-  **Key Takeaways**
- Datura poisoning → **Anticholinergic syndrome**
- Supportive management is the mainstay
- Antidote: **Physostigmine**.
- Monitor for complications: seizures, arrhythmias, aspiration

PREVENTION

- Psychiatric consultation also very important to treat the root cause and for prevention of such suicidal attempts.

Thankyou