

# Nut case in ER: ISTOLS Toxidromal Approach by Indian Society of Toxicology in managing botanical emergencies due to Areca Catechu - Betel Nuts

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## Abstract

Prevention of medicolegal case by proving Patient's contributory Negligence beforehand, by keeping betel nuts in mouth while sleeping, as bad habit documented in social history of patient, is better option, than fighting these allegations in the consumer courts, to prove our innocence as health care provider, filed mostly under Consumer Protection Act. We are presenting an interesting case reported in our Emergency, brought in critical state, rescued by logical approach in diagnosing, and recovered after bronchoscopic removal judiciously.

**Keywords:** Aspiration, areca, betel nut, pneumonia, medicolegal, negligence

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## Introduction

Areca nut is considered to be the fourth most commonly used psychoactive substance after tobacco, alcohol and caffeine and more than 10% of the World's population chew it regularly more commonly in Asian countries. This widespread habit was associated with aggressive marketing strategies, easy availability and illiteracy. The major constituents of the nut are carbohydrates, fats, proteins, crude fiber, polyphenols, alkaloids and mineral matter. Polyphenols (flavonols, tannins) are responsible for the euphoria and astringent taste of the nut. Alkaloids are the most important biologically active ingredients. There are six identifiable alkaloids viz arecoline, arecaidine, guvacine, guvacoline, nicotine and piperidine.

## Case Report

A 50yr old diabetic hypertensive male was brought in ER in midnight from another Hospital in gasping state with cyanosis in lips & nails.

Vitals not recordable, RBS=119mg/dl. Immediately CPR started, Airway Secured & intubated with Endotracheal tube in Emergency Room.

There was one month history of shortness of breath, fever, productive cough and recurrent admissions in past one month in nearby Hospitals.

After 15min of CPR , Patient achieved Return of Spontaneous circulation (1).

Airway was secured, Breathing rate was 6/min (2) with SPO2 = 58% on room air,

Circulation- carotids pulses were feeble, HR= 130/min- PEA.

BP=90/50mm Hg. Temp- Afebrile,

Chest – Right sided crepts & bronchial breath sounds, Right side chest rise reduced

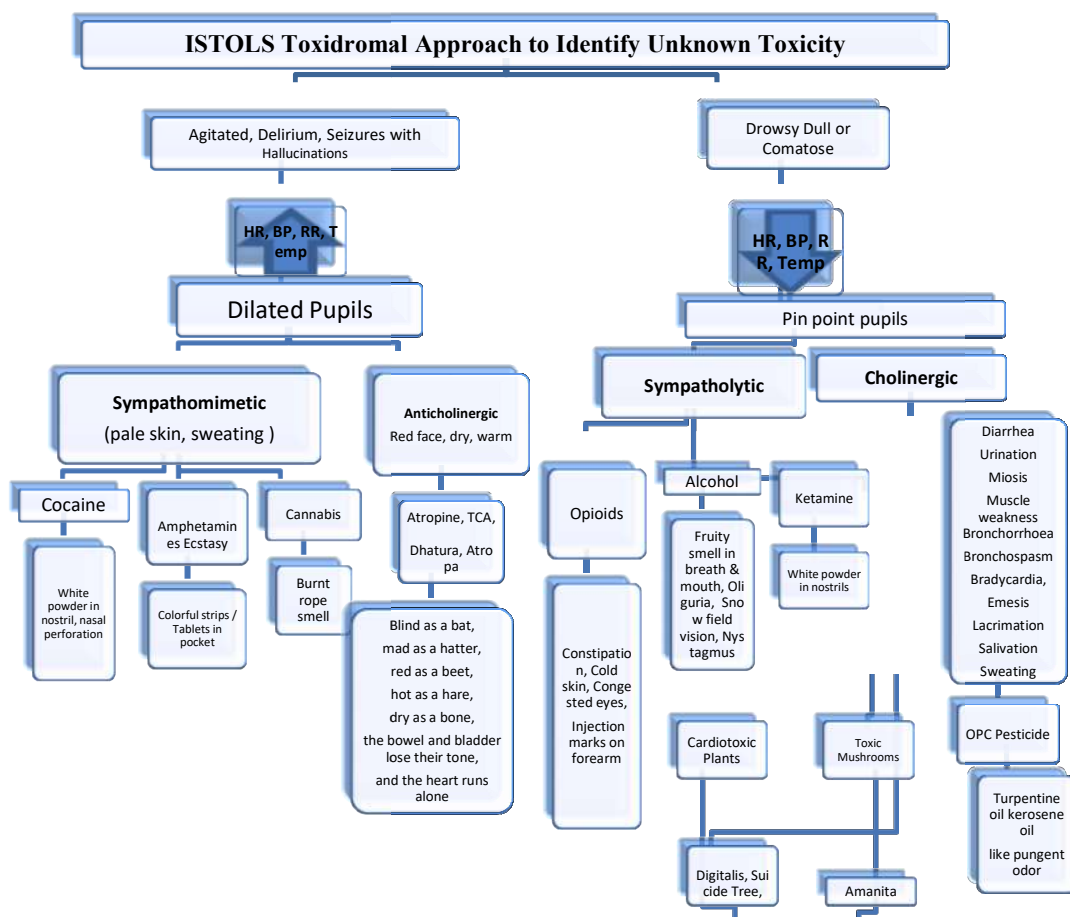
CVS – S1, S2 were normal. Per Abdomen – soft, non-tender

No injury or injection marks were noted.

ABG having lactic acidosis with CO2 retention PCO2= 68%



**Fig. 2.** Portable Xray revealed right sided pneumonia. Virtual Bronchoscopy by #D reconstruction of HRCT Chest revealed foreign bodies of betel nut pieces in distal bronchus (2)



**Fig 2.** ISTOLS Toxidromal Approach to identify unknown toxicity

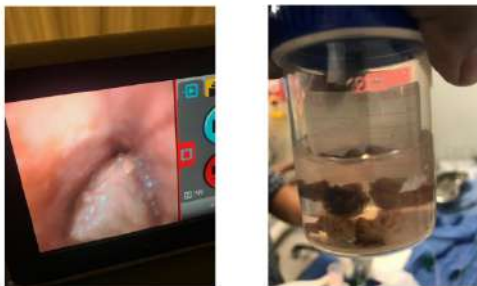
### History

On detailed History from patient's son, he reported that his father has bad habit of keeping betel nuts in his mouth 24hrs, even during his sleep.

Foreign body aspiration into the airways is a common occurrence in inebriated conditions, paediatric age group and or loss of cough reflex. Acute symptoms, often times are recognized and medical assistance is sought. Subtle aspirations, unrecognized and stationed for longer time in the abode of airways pose variegated clinical picture.



**Fig. 3.** Virtual Bronchoscopy by #D reconstruction of HRCT Chest revealed foreign bodies of betel nut pieces in distal bronchus



**Fig. 4.** Betel nut pieces removed by bronchoscopy

**Table 1:** Reversible causes of Cardiac Arrest (1)

6H	6T
H-Hypoxia	T-Toxins- Opioids,
H-Hypovolemia	Opiates
H-Hyperkalemia/Hypokalemia	T-Tamponade of
H-Hydrogen ion acidosis	Heart
H-	T-Thrombus
Hypothermia/HyperThermia	CAD/PE- Pulm
H-Hypoglycemia in child	Embolus
	T-Traumatic
	(Blunt Chest
	Trauma)
	T-Tension
	Pneumothorax
	Lung
	T-Trapped nuTs
	in Airway

Course in Hospital: Patient was admitted in ICU and treated with injectable Antibiotics. Patient

underwent multiple sessions of Bronchoscopic removal of betel nut pieces (Figure 4). The procedures were uncomplicated and well tolerated. Neurology review was taken, in view of Hypoxic Brain injury. Patient was tracheostomised later. Patient showed improvement with IV antibiotics and discharged in stable condition after 10 days of hospital stay.

#### Case Discussion

Patient presents in altered mental status like a nut case (slang term for psycho). History of consuming different types of Nuts as food supplements. It was difficult to diagnose the underlying disorder (hard nuts to crack)

Patient's bad habit of keeping nuts in mouth, led the complication of aspiration, setting an example of contributory negligence in his own sickness, (and thus a nut case too).

Although Foreign Body Aspiration (FBA) is uncommon in adults, clinicians must be aware of their likelihood. History of aspiration seems to be the most common predisposing factor. Extra hazard components incorporate injury with loss of cognizance, hidden aspiratory infection, endotracheal intubation, dental surgical methods, psychiatric sickness and narcotic or liquor abuse. The symptoms of FBA can be very vague, ranging from chronic cough, wheeze and dyspnoea to haemoptysis. In cases of long standing and neglected foreign bodies one has to be careful, because of the possibility of complications like

Pulmonary infections, lung collapse, lung abscesses may occur.

Medicolegal Rhyme for the above case described:  
Areca Catechu - Betel Nuts Nut case in ER:

ISTOLS Toxidromal Approach by Indian Society of Toxicology (IST) in Managing Botanical Emergencies due to Areca Catechu - Betel Nuts

Please watch Online to our Audiovisual Case (3) on youtube:

<https://www.youtube.com/watch?v=RkT542Gv3XM&t=1s> and Read case narrated in Toxic Rhymes by of IST below:

Betel-Nut abuser came in our Medanta Emergency, as a Nut Case, challenging us, to diagnose & treat, instead;

As patient brought in ambulance, landed up in altered mental status, like a hard nut to crack, as already said.

When we recognized the critical condition of patient, in gasping state, with life threatening status, looked really sad;

If patient would have got slightly late in reaching Hospital, it would have caused hypoxic damage brain-dead.

Bad habits created this sudden emergency, to patient with grave complication, of bringing him to Death Bed;

Due to mere ignorance & gross negligence by patient himself, of sleeping with betel-nuts inside his buccal pad;

Patient's sons begged to ER physicians, to do everything in best possible manner for saving their dying dad;

Patient was Middle Aged, with his parents, grandparents, uncle & aunt, consoling his family, wife & young lad;

As Health care providers did their job in rescuing vital organs to save victim's life, while relative's Tears Shed;

Chest Radiography on bedside reported complete white out, of one sided lung due to airway blockage, it had;

Betel nut aspiration pneumonia was confirmed with High resolution Computer Tomography of dose 700 Rad;

After endoscopically removing betel nut piece blocking airway, thus saving life of his negligent act, Doctors felt Glad;

Thus, we prevented medicolegal case against us, by proving contributory Negligence by culprit's bad habit, unclad;

Patient in spite of well educated & family man, had become an Addict of tobacco coated Betel Nuts Fad;

Bad habits of chewing tobacco laced betel nuts are believed, but not surprisingly, just the domains of Nomad;

Movie stars unethically promote commercials for selling saffron laced betel nut - केसर (adding a dot makes it कैसर), in TV Ad;

And these attractive colours of packets with fragrant flavours, become habit forming in youngsters, going Mad;

Modern norms to socialize, under peer pressure, motivate on addictive drinking, chewing, smoking, vaping to add;

Youngsters forget, that they go to institutions to learn know-how a skill, with chief goal is to earn for Bread;

We need to re-emphasize on developing habits of keeping oral hygiene, as Take home Message on Stamp Pad;

### Conclusion

The case report stresses the importance of history taking. One of the redeeming features of this case is; he did not showed any signs of Areca nut toxicity. His morbidity was aspiration pneumonia of the Areca nut pieces swallowed into the lungs during deep sleep. This was removed under direct vision with bronchoscopy after relevant investigations.

### Conflict of interest

None

### References

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3. Available from:

<https://www.youtube.com/watch?v=RkT542Gv3XM&t=1s>