THE CONFUSED GRANDMA:

Survival guide when on-call

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MEDICINE REVIEW COURSE 05/09/2015

OBJECTIVES

1. Be able to recognise delirium in the elderly patient
2. Appreciate the importance of making a prompt diagnosis
3. Be able to perform a comprehensive assessment of the confused older patient
4. Be able to order appropriate investigations
5. Be able to initiate management in the acutely confused patient

Case scenario

- Mdm Tan CK
- 79 year old Chinese lady
- Past Medical history includes hypertension, diabetes, ischemic heart disease, stroke, osteoarthritis of the knees, cataracts and recently diagnosed dementia.
- Premorbid function: BADL independent, continent, able to cook simple meals, do basic housework, shop independently at supermarket with a list.
- Admitted for a 3-4 day history of “ altered mental state”

Case scenario

- Slow in answering questions
- Couldn’t recognise husband on one occasion and asked him what he was doing in the house
- Woke up in the middle of the night and insisted it was time to go and visit their grandchildren.
- Had urinary incontinence on day of admission
- Also spent most of the day lying in bed and appeared to have lost interest in her usual activities

MCQ 1

- **What is the most likely diagnosis?**

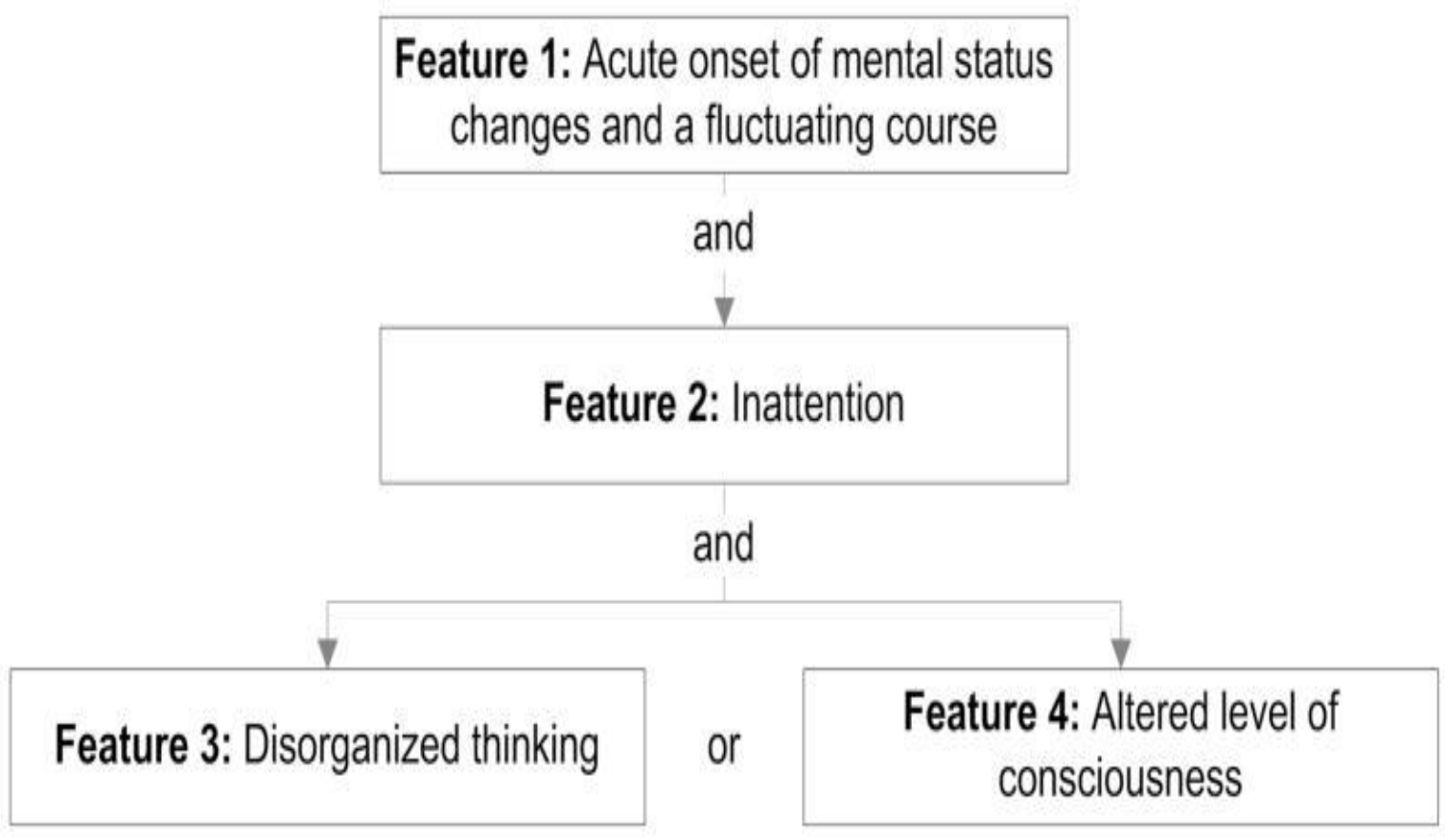
a. Worsening dementia

b. Acute stress reaction

c. Delirium on background of dementia

d. Depression

CAM- Confusion Assessment Method



Inouye et al. Ann Intern Med 1990

DELIRIUM- SUBTYPES

- **Psychomotor subtypes**

1. **Hyperactive**

2. **Hypoactive**

3. **Mixed**

- **Why is delirium so important?**

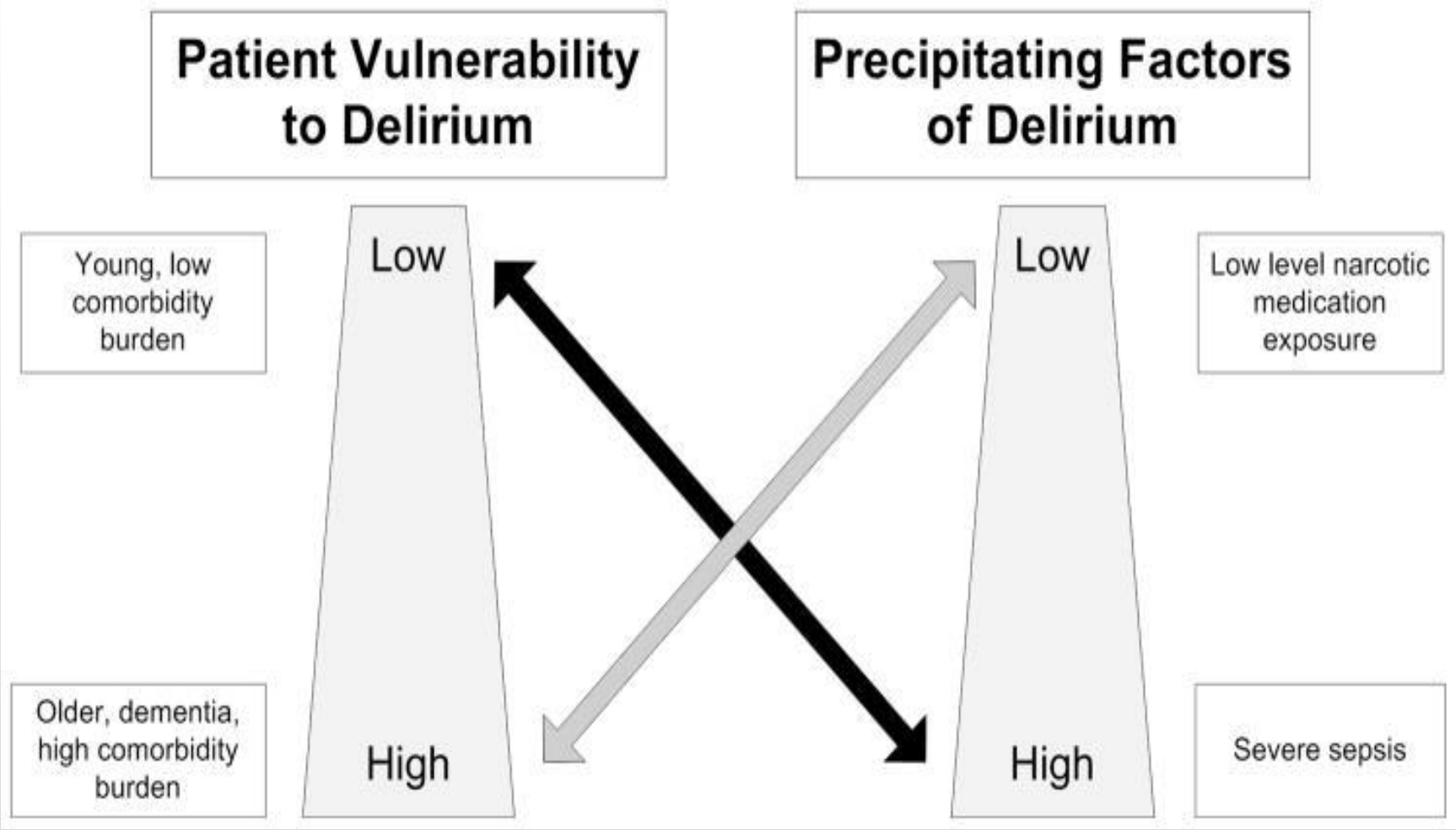
- Higher death rates
- Accelerated functional and cognitive decline
- Longer hospital length of stay
- Poor quality of life
- Increased financial burden

Han et al Emerg Med Clin North Am 2010

ETIOLOGY

- Initial manifestation of acute illness
- Multifactorial
- Predisposing (vulnerability) vs precipitating factors
- Dementia probably most consistently observed independent vulnerability factor for delirium

Vulnerability vs Precipitating Factors



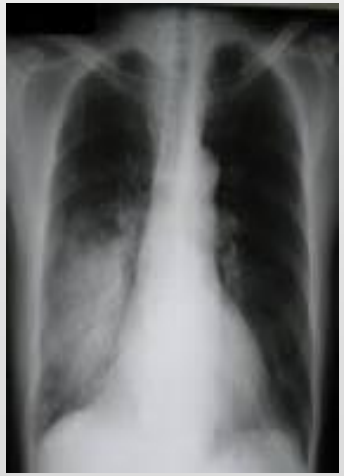
Inouye et al JAMA 2006

ETIOLOGY- PREDISPOSING FACTORS

- Advanced age
- Pre-existing cognitive impairment/ dementia
- Severe underlying illness
- Functional impairment
- Malnutrition
- Alcohol Abuse/ baseline use of psychoactive drugs
- Sensory Impairment
- Nursing Home residents

ETIOLOGY- THE COMMON PRECIPITANTS

- Infections- UTI, Pneumonia
- Dehydration and electrolyte abnormalities (low sodium, low glucose)
- Organ failure
- CNS insults, CCF, AMI
- DRUGS
- Pain
- Restraints, catheters
- Retention of urine, Fecal impaction



Case Scenario continued.....

- Mdm Tan had been " normal " until 4 days ago when her husband noticed she had not cooked lunch.
- She had spent most of the morning in bed which was " very unusual"
- Had heard a few days ago that her close friend had been diagnosed with cancer
- Had fallen twice in the bathroom- unwitnessed, but was able to get up and walk out herself to the bedroom. No previous falls.

- **Medication history:**

Atenolol 50 mg om

Hydrochlorothiazide 12.5 mg om

Enalapril 5mg bd

Plavix 75 mg om

Glipizide 5 mg bd

Anarex 2 tab tds prn

Glucosamine 500 mg tds

Ketoprofen gel to knees

MCQ 2

- **Which of the following drugs is most likely to have precipitated her confusion?**

a. Atenolol

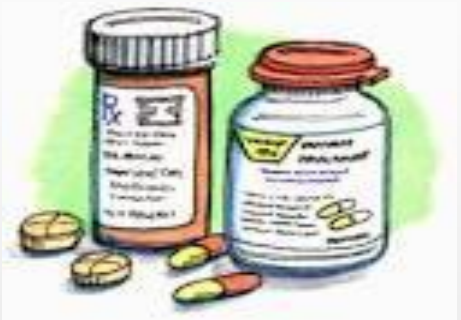
b. Enalapril

c. Glipizide

d. Anarex

The Common Precipitants- DRUGS

- Anarex (orphenadrine)
- Tramadol
- Benzodiazepines – diazepam
- Antihistamines – diphenhydramine, promethazine
- Antispasmodics – diphenoxylate, hyoscine
- Oxybutinin
- Steroids



- Beta-blockers, Methyldopa, metoclopramide, PPI, famotidine

KEY POINTS IN HISTORY

- Establishing baseline cognition/ mental status is crucial
- Duration and nature of change in cognition
- The key words are RECENT CHANGE or ACUTE CHANGE
- Drug history (including OTC meds)
- History of alcohol intake/ substance abuse
- Ask about any recent falls, head trauma or neurological deficit?

KEY POINTS IN PHYSICAL EXAMINATION

- Vital Signs
- Level of consciousness
- Focal neurological deficit
- Abdominal tenderness, distended bladder and Per rectal exam
- Signs of trauma – bones and joints
- Check sacrum and back in immobile patient

Case Scenario contd....

- Mdm Tan's investigations:
- **FBC** : Hb 10.5; TW 11.3 Polys 75%; Plt 188
- **Renal Panel** :

Ur 5.6 mmol/L; Creatinine 87 umol/L

Na: 110 mmol/L; K: 3.2 mmol/L; Glucose 5.4 mmol/L

- **Liver Panel** : normal
- **ECG :** ST flattening in inferior leads
- **CXR :** no consolidation seen
- **Urine FEME :** RBC 5, WBC 35, EC 5

MCQ 3

Looking at the investigations, what is the most likely cause of Mdm Tan's delirium?

a. Urinary Tract Infection

b. Silent AMI

c. Anemia

d. Hydrochlorothiazide – induced hyponatremia

DIAGNOSTIC EVALUATION

BASIC INVESTIGATIONS

- Full Blood Count
- Renal Panel
- Liver Panel
- Urinalysis
- ECG
- CXR

DIAGNOSTIC EVALUATION

OTHER INVESTIGATIONS IN SELECTED CASES

- Blood Cultures , CRP, Procalcitonin
- Arterial blood gas
- Cardiac enzymes
- CT Brain
- Thyroid panel, Calcium levels, folate, serum B12
- Serum Ammonia level, drug toxicology
- EEG, LP

WHEN IS NEUROIMAGING USEFUL?

Focal Neurological deficit suggesting a stroke or space occupying lesion

History of head trauma

History of frequent falls

Patient on anticoagulation

Severe headaches

History of cancers where metastases to brain suspected

MANAGEMENT- PHARMACOLOGICAL

- **Treat underlying aetiology**

- Antipsychotics if agitation, behavioural disturbances and psychotic symptoms present
- PO Haloperidol 0.25-1 mg
- Avoid IV Haloperidol as may precipitate torsade de point

MANAGEMENT - PHARMACOLOGICAL

- Atypical antipsychotics- risperidone (0.25-0.5 mg), olanzapine, quetiapine
- Limited studies
- Less incidence of extrapyramidal side effects

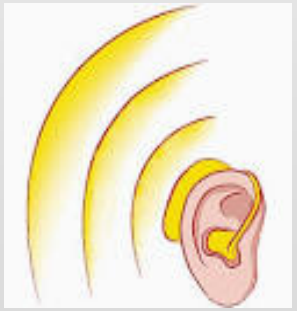
- Avoid benzodiazepines as single agent unless treating withdrawal
- Can exacerbate delirium, high side-effect profile
- Avoid medications with anti-cholinergic properties

MANAGEMENT- NON PHARMACOLOGICAL

- Multidisciplinary management
- Decrease use of psychoactive medications
- Early mobilization
- Avoid physical restraints, catheters
- Encourage family member at bedside
- One – to - one support
- Minimize disruption in normal sleep-wake cycle

MANAGEMENT- NON PHARMACOLOGICAL

- Orientation Board
- Adequate lighting
- Quiet environment
- Use of hearing aids/ glasses
- Addressing patient by name




"HEY! I THINK HE JUST MOVED! ADD ONE MORE!"

In a Nutshell…

- Delirium is common in the elderly
- Complex interplay between vulnerability (predisposing) and precipitating factors
- Establishing baseline mental status and an acute change is crucial
- Treat underlying aetiology
- Management includes pharmacological and non-pharmacological measures
- Follow-up for function and cognition is important

THANK YOU FOR YOUR KIND ATTENTION