WHO IS THE PATIENT?

Dr. Helen Wong
Haven of Hope Hospital
Social History

- Mr. HY Ng
- 70/M
- Allergic to augmentin and tetracycline
- Never smoker, non-drinker
- Has 5 children
- Live with wife and youngest son’s family
- ADL-independent
- Walk unaided
Past Medical History

1. Hypertension defaulted follow up
2. History of Steven-Johnson syndrome due to augmentin and tetracycline
3. Gout
1st admission to Acute Hospital
(12-15 Feb 2013)

HPI:
- Sudden onset of palpitation at night
- Regular and strong beat
- Last for 1 hour
- No associated chest pain or SOB or dizziness
1\textsuperscript{st} admission to Acute Hospital
(12-15 Feb 2013)

☐ **PE:**

- BP: 165/73
- P: 78
- SaO2: 98\% on 2 L O2
- Afebrile
- No goitre
- HS dual, no murmur
- Chest clear
- Abd soft and non-tender
1\textsuperscript{st} admission to Acute Hospital
(12-15 Feb 2013)

- Ix results:
  - CXR: clear
  - ECG: SR with PVCs
  - WCC: 11.5, Hb: 11.2
  - Trop T < 14
  - TFT: normal
1st admission to Acute Hospital
(12-15 Feb 2013)

- Progress:
  - Patient was managed as ventricular ectopics and poor control Hypertension.
  - He was started on norvasc 10 mg daily
  - Outpatient Echo was booked
  - FU MOPD 16/52 to review symptoms
2\textsuperscript{nd} admission to Acute Hospital
(27Feb -5 March 13)

- **HPI:**
  - Sudden onset of palpitation again
  - Recently admitted to hospital in mainland for palpitation with some Ix done, no report a/v
  - Strong and regular heart beat
  - No chest pain or dizziness
  - Associated with mild SOB
2nd admission to Acute Hospital
(27Feb - 5 March 13)

- **PE:**
  - BP: 169/79
  - P: 62
  - RR: 14
  - SaO2: 100% on RA
  - Afebrile
  - HS dual, no murmur
  - Chest clear
  - Abd soft, BS +ve
2\textsuperscript{nd} admission to Acute Hospital
(27Feb - 5 March 13)

- **Ix results:**
  - ECG: SR, ventricular ectopics
  - Holter: no symptom and no significant arrhythmia noted. Frequent VEs, no VT
2nd admission to Acute Hospital
(27Feb - 5 March 13)

- Progress:
  - Changed norvasc 10mg daily to 5 mg daily, added lisinopril 5mg daily and aspirin 80mg daily.
  - Plan to FU old appt after Echo and review symptoms
3rd admission to Acute Hospital
(9-11 March 13)

□ HPI:
  ▪ Admitted for palpitation and dizziness again

□ PE:
  ▪ Unremarkable, BP: 168/94

□ Ix:
  ▪ ECG: SR with PVC
  ▪ CTB: NAD

□ Mx:
  ▪ Increase zestril from 5 mg to 10 mg daily
4th admission to Acute Hospital
(21-23 March 13)

HPI:
- Chest pain on 21/3 night with palpitation
- No SOB
- Spontaneously subsided
4th admission to Acute Hospital
(21-23 March 13)

PE:
- BP: 216/104
- P: 68
- RR: 17
- SaO2: 96% on RA
- JVP not raised
- No LL edema
- Chest with fair AE
4th admission to Acute Hospital
(21-23 March 13)

- **Ix:**
  - CXR: no consolidation
  - ECG: SR, no acute ST changes, no PVC
  - Hb: 12.4, WBC: 6.6
  - Trop T < 14 x 2
4th admission to Acute Hospital
(21-23 March 13)

- **Mx:**
  - Changed pepcidine to pantoloc
  - Added PRN TNG and Imovane
  - Chest pain subsided
  - FU old appt
# Summary

<table>
<thead>
<tr>
<th></th>
<th>1&lt;sup&gt;st&lt;/sup&gt; admission</th>
<th>2&lt;sup&gt;nd&lt;/sup&gt; admission</th>
<th>3&lt;sup&gt;rd&lt;/sup&gt; admission</th>
<th>4&lt;sup&gt;th&lt;/sup&gt; admission</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admission Date</td>
<td>12-15 Feb</td>
<td>27 Feb - 5 Mar</td>
<td>9-11 March</td>
<td>21-23 March</td>
</tr>
<tr>
<td>Chief complaint</td>
<td>palpitation</td>
<td>Palpitation with mild SOB</td>
<td>Palpitation + dizziness</td>
<td>Chest pain + palpitation</td>
</tr>
<tr>
<td>Significant Ix</td>
<td>ECG: SR, VEBs, TFT: NAD</td>
<td>Holter: VEBs</td>
<td>CTB: NAD</td>
<td>Trop T &lt;14 x 2</td>
</tr>
<tr>
<td>Management</td>
<td>-Started norvasc 10mg daily -Booked Echo</td>
<td>norvasc to 5mg added zestril 5mg daily and aspirin 80mg daily</td>
<td>Zestril to 10mg daily</td>
<td>-change pepcidine to pantoloc -add PRN TNG and imovane</td>
</tr>
</tbody>
</table>
Our Patient...

- He was recruited into the ICM (Integrated Care Model for high risk elders) program in the last admission in late March in view of repeated admissions.

- (4 admissions in 1 month)
ICM Nurse visit

- ICM nurse first visited patient 3 days after last discharge.
- The main purpose of the visit is for drug supervision.
- When arrived at patient’s home, she noted patient’s wife wandering inside the flat.
- Patient’s son told her that patient’s wife is having some “mental problem”
- Otherwise, patient himself appear calm. He denied any stress and claim to have very good drug compliance.
ICM Doctor Clinic

- Patient was then seen in the ICM clinic.

- More detailed history enquired:
  - Patient live with son’s family and his wife
  - All along ADL-I, walk unaided
  - According to patient, he started to have palpitation 1 year ago.
  - At that time, the palpitation was infrequent.
  - The rhythm is all along regular and each episode last for 15mins to 1.5 hrs.
  - The palpitation is associated with occasional chest discomfort, SOB and limb numbness.
  - Also, he started to have insomnia since 1st admission in Feb.
  - He also noted reduced appetite with weight loss~ 10 lbs in 3/12.
Important symptoms

- **Palpitation** for 1 year which is associated with occasional chest discomfort, SOB and limb numbness.

  - Insomnia for 2 months
  - Weight loss~ 10 lbs in past 3/12
# Etiology of Palpitation

## Cardiac
- Any arrhythmia
- Cardiac and extracardiac shunts
- Valvular heart disease
- Pacemaker
- Atrial myxoma
- Cardiomyopathy

## Psychiatric disease
- Panic attack and disorder
- Generalized anxiety disorder
- Somatization
- Depression

## Medications
- Sympathomimetic agents
- Vasodilators
- Anticholinergic drugs
- Beta blocker withdrawal

## Habits
- Cocaine
- Amphetamines
- Caffeine
- Nicotine

## Metabolic disorders
- Hypoglycemia
- Thyrotoxicosis
- Pheochromocytoma
- Mastocytosis
- Scombroid food poisoning

## High output states
- Anemia
- Pregnancy
- Paget's disease
- Fever

## Catecholamine excess
- Stress
- Exercise
Home visit

- Home visit was done on 29/4. At that time, patient, his daughter and wife were at home.
- Patient appear very worry and sad. He express worry on whether the palpitation will continue to worsen or not. He felt himself less energetic than before.
- During the conversation with patient, his wife walk around in the flat and talking in dialect.
- On enquiry, patient’s daughter express that her mother was noted to have poor memory for 1-2 years. And she was noted to have some “odd behaviour” in recent few months which includes:
  - wandering at night and try to wake up all the family members at midnight
  - Forget to turn off gas stove
  - Attempt to go out all the time
  - Strongly believe that patient has extra-marital relationships with 3 other women
  - Self muttering all the time
  - Throw clothes out of the window
After talking with patient’s daughter on her mother’s issue, we explore patient’s view on his wife’s behavior.

Patient express that he can’t sleep since the start of his wife’s “odd behavior” at night.

He also express the embarrassment caused by his wife to the neighborhoods.

He wish to “recover” soon so as to take care his wife. But he felt himself too weak to do so.
Further assessment

- GDS: 12/15
- Caregiver strain index: 13/13
Geriatric Depression Scale

以下的問題是人們對一些事物的感受，答案沒有對與不對。在過去一星期內，你是否曾有以下的感受。如有的話，請√「是」，若無的話，請√「否」。

1. 你基本上對自己的生活感到滿意嗎？
2. 你是否已放棄了很多以往的活動和嗜好？
3. 你是否覺得生活空虛？
4. 你是否常常感到煩悶？
5. 你是否很多時感到心情愉快呢？
6. 你是否害怕將會有不好的事情發生在你身上呢？
7. 你是否大部份時間感到愉快呢？
8. 你是否常常感到無助？
9. 你是否寧願留在院舍/屋企裡，而不出外做些有新意的事情？
10. 你是否覺得你比大多數人有多些記憶的問題呢？
11. 你認為現在活著是一件好事嗎？
12. 你是否覺得自己現在一無是處呢？
13. 你是否感到精力充足？
14. 你是否覺得自己的處境無望？
15. 你覺得大部份人的境況比自己好嗎？

給予一分如以下題目√「是」：2, 3, 4, 6, 8, 9, 10, 12, 14, 15
給予一分如以下題目√「否」：1, 5, 7, 11, 13

The Cut off score for possible depression is ≥8
Caregiver strain index

☐ 照顧者壓力指數量度表

問題

1. 感到困身（例如：因自由時間減少了或不能外出）
2. 感到不方便（例如：因為需要花很多時間或長途跋涉去協助病者）。
3. 感到身體疲累（例如：需專注看護病者或費力去幫助病者坐立）。
4. 睡眠被打擾（例如：需在夜間照顧經常要上落床或無法安頓下來的病者）。
5. 起居生活習慣有變動（例如：因為往常的家居工作被打擾，私人時間少了）。
6. 個人計劃的改動（例如：要放棄轉工的念頭，或者不能放假）。
7. 要花時間應付其他人的需求（例如：來自其他家庭成員的要求）。
8. 情緒上要適應（例如：因為出現激烈的爭吵）。
9. 病者某些行為令人煩厭（例如：失禁、他記憶事情有困難或他怪責別人取了他的東西）。
10. 發現病者改變很大而令你不安（例如：他跟以往完全不同）。
11. 要改動工作安排（例如：因為要特別放假照顧病者）
12. 財政負荷。
13. 感到心靈疲累（例如：因為擔心或顧慮該如何處理病者）。

☐ Scoring is 2 points for each ‘yes’ and 1 point for each ‘sometimes’ response.
☐ The higher the score, the higher the level of caregiver strain.
Diagnosis

- Depression with somatic anxiety complaints secondary to carer stress.
### Mx in ICM clinic

<table>
<thead>
<tr>
<th>Patient</th>
<th>His wife</th>
</tr>
</thead>
<tbody>
<tr>
<td>In view of patient’s low mood, he was started on cipram.</td>
<td>-we traced patient’s wife record in HA. Actually she was known to HA since May 2012.</td>
</tr>
<tr>
<td>Short course of xanax and imovane were given for his palpitation and insomnia.</td>
<td>-At that time she was seen in MOPD for poor memory. CTB and blood tests were ordered.</td>
</tr>
<tr>
<td>MSW was referred and community service for dementia and private OAH information was provided.</td>
<td>-Blood results were unremarkable. She defaulted the CTB and subsequent follow up and went back to China with our patient.</td>
</tr>
<tr>
<td>Psychiatry OPD was referred. 1(^{st}) appointment given on 18/7/2014.</td>
<td>-Clinically she is compatible with Dementia with BPSD.</td>
</tr>
</tbody>
</table>

-CTB was rebooked and referral to psychiatry OPD and medical OPD were made.

-She was started on haldol and later on switch to imovane + quetiapine.
Latest Progress in Sep2013:

Our patient:
- No more admission since then.
- Frequency of palpitation much decreased.
- Sleep and mood improved.

His wife:
- Decrease in disturbing behavior at night time.
- on waitlist GOAH
- CTB: no gross abnormalities
- Seen by psychiatrist on 14/6/13, added memantine 10mg daily.
- Will follow up in Geri clinic + psychi OPD in the long run.
ELDERLY DEPRESSION
Prevalence

- In Hong Kong, the prevalence of clinically significant depressive symptoms was 9.7% among the community cohort of 55946 elderly. *(Sun WJ, Xu L, Chan WM, et al. 2011)*

- Depression was screened by the 15-items Chinese version of Geriatric Depression Scale (GDS) with a cut-off point at 8.
Prevalence

- Recent studies have demonstrated a higher prevalence of depressive disorders in residential homes than in the community.

- Conservative estimate of the prevalence of depression in cognitively intact nursing home residents is 10-20%; for cognitive impaired patients the prevalence rises to 50-60%. *(Parmelee PA, KatzIR, Lawton MP 1989)*
Suicides in the Elderly

- In many countries the suicide rate of elderly persons (aged 65 years and above) is higher than in younger age groups. \(\textit{(Conwell Y & Brent D 1996)}\)

- Elderly suicide rates (27.6 per 100,000) are 2 to 3 times that of the general population in 2006 in Hong Kong.

- In most Western countries, the male to female ratio of suicide rate is approximately 3:1. In the elderly, the male to female ratio was slightly over 1. In Hong Kong, the male to female ratio in elderly suicides was \(1.3:1\). \(\textit{(Chiu HFK, Chan SSM, Lam LCW 2001)}\)
Suicides in the Elderly

- In older people, suicidal ideations, suicide attempts, and completed suicides occur most frequently in the context of major depression.

- Chiu et al. reported that 86% of the elderly suicide subjects in Hong Kong suffered from a psychiatric problem before committing suicide. Among the psychiatric problems, major depression which was the most common diagnosis was found in 53% of the elderly suicide subjects. (Chiu HFK, Yip PSF, Chi I, et al. 2004)
The detection of suicide in the elderly (especially in men) is more challenging, as they are less likely to communicate their depressed mood and overt suicide intent and often present with symptoms of masked depression.

Chiu et al. reported that 76.5% of suicide subjects in Hong Kong had consulted a doctor (including specialists or general practitioners) within 1 month before death in a psychological autopsy study. (Chiu HFK, Yip PSF, Chi I, et al. 2004)
Pathogenesis

- Damage to frontal subcortical circuitry, specifically the striato-pallido-thalamo-cortical pathways, due either to neurodegeneration or cerebrovascular disease, is implicated in some subtypes of late-life depression.

- Cerebral atrophy, subcortical deep white matter, and periventricular ischemic lesions, commonly seen on brain imaging, may be implicated.

- Other radiologic findings in late-life depression are increased ventricular brain ratios and decreased volumes in specific brain regions.
Risk factors of elderly depression

1. Female gender
2. Being widowed or divorced
3. Medical illness, e.g. stroke, neurological disorders
4. Functional disability
5. Family and personal history of depression
6. Social isolation
7. Life events
8. Medications
e.g. anti-hypertensives, steroids and anti-parkinsonian drugs
9. **Caregiving**, e.g. carers of people with dementia
In a study done in 2012 in Taiwan:

- 42% of caregivers had problems of depression.
- Delusions are associated with the highest caregiver burden, followed by agitation/aggression, anxiety, irritability/lability, and dysphoria/depression.
- Higher symptom frequency of anxiety, delusions, and agitation/aggression was associated with higher caregiver burden.

Classification

1. Major depression
2. Dysthymia
3. Subsyndromal depression or minor depression
4. Psychotic depression
5. Vascular depression
6. Alzheimer disease and other dementias
Major depression

(DSM-IV) A major depressive syndrome or episode manifests with five or more of the following symptoms, present most of the day nearly every day for a minimum of two consecutive weeks. At least one symptom is either depressed mood or loss of interest or pleasure.

- Depressed mood
- Loss of interest or pleasure in most or all activities
- Insomnia or hypersomnia
- Change in appetite or weight
- Psychomotor retardation or agitation
- Low energy
- Poor concentration
- Thoughts of worthlessness or guilt
- Recurrent thoughts about death or suicide
Dysthymia

- By definition, this condition has a duration of at least 2 years. It is manifested as a depressed mood for most of the day, and is accompanied by at least 2 of the following symptoms:
  - Poor appetite or overeating
  - Insomnia or hypersomnia
  - Low energy or fatigue
  - Low self-esteem
  - Poor concentration and/or difficulty making decisions
  - Feelings of hopelessness

- Elderly patients with late onset dysthymia have a higher prevalence of cardiovascular disease, but are otherwise similar to older patients with late onset depression [Devanand DP, Adorno E, Cheng J, Burt T, Pelton GH, Roose SP, Sackeim HA 2004].

- Patients with dysthymia are at greater risk of developing major depression, so-called "double-depression," and may be particularly treatment resistant.
Subsyndromal Depression

- Patients may not meet DSM-IV definition for major depression or dysthymia because of fewer symptoms or limited duration of symptoms.

- Minor (or subsyndromal) depression is not currently recognized in the DSM-IV and would be diagnosed as a depressive disorder, not otherwise specified.

- Importantly, these patients are at high risk for subsequent development of major depression and may develop suicidal ideation.

- Subjects with minor depression, aged 60 years and older, had a 5.5-fold risk (95% CI 3.1-10) of developing major depression at one year compared to subjects without depression in one study. [Ann Intern Med. 2006;144(7):496.].
Assessment and Diagnosis

- Based on eliciting a specific cluster of symptoms through careful history taking and mental state examination, supplemented by relevant physical examination
- No confirmatory laboratory tests
- ICD-10 or DSM-IV
- Screening instruments:
  - GDS
  - the Two-question Test (2Q)
  - the Patient Health Questionnaire (PHQ-9)
the Two-question Test (2Q)

- 在過去的一個月，您曾否經常被以下事情煩擾：
  - 幾乎沒有興趣或樂趣去做事
  - 感覺情緒低落、抑鬱或絕望

- Sensitivity = 96.7%, Specificity = 73.4%
the Patient Health Questionnaire (PHQ-9)

在過去的兩個星期，您曾否經常被以下問題煩擾着？
1. 幾乎沒有興趣或樂趣去做事
2. 感覺情緒低落，抑鬱或絕望
3. 入睡或保持睡眠有困難。或者睡得太多
4. 感到疲倦或缺乏體力
5. 胃口不好或吃得過量
6. 您覺得自卑或自責，或者覺得自己或家人對自己感到失望
7. 對事情的集中力有困難，例如閱讀或看電視
8. 您的活動或說話速度很慢以致別人也留意到。或者情況相反：您感到心煩意亂或坐立不安以致四處走動的情況多於平時
9. 有否想到傷害自己，自殺傾向或行為

到目前為止，假如您在這份問卷中檢查出任何問題，您覺得這些問題對您的工作、料理家中的事務或與其他人相處的事情上遇到多少困難？

- Sensitivity = 80%, Specificity = 92%
Diagnostic difficulties

- Primary care physicians could identify no more than 50% of patients with a diagnosable depressive syndrome (Mulsant & Ganguli, 1999)

- Presentation of depression in the elderly may be modified by factors associated with old age.
Peculiar features of elderly depression

- Minimisation of sadness (Georgotas, 1983)
- **Somatisation** or disproportionate complaints associated with physical disorder (Sheehan *et al*, 2003)
- "Neurotic" symptoms of recent onset
- "Trivial" acts of deliberate self-harm
- "Pseudodementia"
- Depression superimposed on dementia
- Accentuation of premorbid personality traits and recent change in behaviour
Clinical presentation of elderly depression

Compared with young depressives, older people have (Weisman, 1991):

- Less disturbed sleep (19% vs 25%)
- Less appetite disturbance (16% vs 27%)
- Less disturbed energy (11% vs 18%)
- Less guilt (5% vs 13%)
- Less diminished concentration (8% vs 16%)
- Fewer thought about death (22% vs 31%)
Somatic symptoms in Depression

- In a clinical study, Hamilton reported that somatic symptoms prevailed in a great majority of depressed patients.

- Somatic symptoms, particularly somatic anxiety and fatigue, were documented in up to 80% of a sample of 260 women and 239 men suffering from major depression.
Management

- A complete history will guide treatment decisions. Aspects of the history of special importance in managing depression in the elderly are:

  1. Assessment for **suicidality**, including ideation and plan. Acute suicidal ideation requires urgent psychiatric referral.

  2. Assessment for **psychotic** symptoms or insomnia.

  3. Determination of whether the patient is using medication(s) with depressant side effects (**benzodiazepines**, **CNS depressants**, **opiates**, **other pain medications**) or is abusing **alcohol**.

  4. Consideration of other medical conditions commonly associated with depressive symptoms, particularly unrecognized **thyroid disease**, or **diabetes**. Additionally, **pain syndromes** can be a barrier to treatment response in depression and should be treated along with the depression.
A complete history will guide treatment decisions. Aspects of the history of special importance in managing depression in the elderly are:

5. Determination of history of prior depressive episodes, age of depression onset, prior drug therapy and outcome, and length of prior remission if achieved.

6. Determination of a family history of depression and family response to medication. Older patients with mild depressive symptoms and first degree relatives with confirmed depression diagnosis have a 1.5 to 3 times greater risk for depression than the general population (J Affect Disord. 1995;36(1-2):65).
Management

- Successful treatment of depression in late life is dependent upon several factors:
  - addressing comorbid conditions
  - tailoring pharmacologic or other interventions to the individual patient
  - monitoring therapy for side effects and effectiveness
  - and assuring close follow-up.
Treatment

- Psychotherapy
- Exercise
- Medications
- Electroconvulsive therapy (ECT)
Psychotherapy is a useful but frequently underutilized treatment for elderly depressed patients. (Areán PA, Cook BL. 2002)

Short-term treatments include cognitive-behavioral therapy (CBT), interpersonal psychotherapy, and problem-solving therapy, which are delivered over a period of two to four months and are effective for older patients. (Cochrane Database Syst Rev. 2008)
Exercise

- Systematic reviews of controlled trials indicate that physical exercise is beneficial for depressed patients 60 years and older. *(Clin Rehabil. 2009;23(10):873)*

- The two main types of exercise are cardiovascular (aerobic) activities such as walking, running, or swimming, and resistance training (nonaerobic) that involves lifting weights.

- Both types of exercise can help reduce depressive symptoms, but the results appear to be more consistent for cardiovascular exercise.
Electroconvulsive therapy (ECT)

ECT is used for depressed patients who:

- have not responded to adequate antidepressant trials
- patients with severe major depression that is life-threatening or significantly impairs functioning.
Pharmacological treatment

- A systematic review of 26 randomized trials comparing antidepressant classes in patients aged 55 and older found little difference in efficacy between medications. [Mottram P, Wilson K, Strobl J et al 2006].

- A meta-analysis in 2004 shown that there is higher withdrawal rate due to side effects for patients treated with tricyclic antidepressants, compared with selective serotonin reuptake inhibitors (SSRIs). [Wilson K, Mottram P 2004]

- These findings suggest that side effect profiles should be the major determinant in medication selection.
Monotherapy is preferred in the elderly in order to minimize drug side effects and drug-drug interactions.

Initial medication dosage should be adjusted for the older adult, typically cutting the usual starting dose for younger patients in half.

Lower starting doses will compensate for decreased drug clearance in the elderly, minimize initial side effects, and promote medication compliance and maintenance.
Duration of treatment

- The usual course of treatment for the first lifetime episode of unipolar major depression in adults is **6 to 12 months** beyond the time of achieving full remission.

- The goal of continuation and **maintenance** treatment is **to prevent relapse**. Relapse rates in the elderly are higher than in younger populations, which may indicate a need for longer periods of maintenance therapy.
Treatment

- Selective serotonin reuptake inhibitors (SSRIs)
- Serotonin-norepinephrine reuptake inhibitors (SNRIs)
- Noradrenergic and Specific Serotonergic Antidepressant (NaSSA)
- Atypical antidepressants
- Tricyclic and tetracyclic antidepressants
- Monoamine oxidase inhibitors (MAOIs)
- Quetiapine
Selective serotonin reuptake inhibitors (SSRIs)

- SSRIs are considered first line for treatment of depressive disorders in older adults due to better tolerability, ease of use, and general safety, especially in overdose.

- Resolution of depressive symptoms, usually between four to six weeks, may take longer in the elderly.

- Potential side effects of SSRIs of special concern in the elderly include Parkinsonism, akathisia, anorexia, sinus bradycardia, and hyponatremia.

- The United States Food and Drug Administration issued warnings that citalopram causes dose-dependent QT interval prolongation that can lead to arrhythmias, and thus recommends that the maximum dose in patients >60 years of age should not exceed 20 mg per day.
Serotonin-norepinephrine reuptake inhibitors (SNRIs)

- Venlafaxine (Efexor) and duloxetine, two available serotonin-norepinephrine reuptake inhibitors (SNRIs), are currently used as second-line agents for treatment failure with SSRIs.

- The SNRIs are considered safe for use in most elderly populations, although both carry a dose-dependent risk for diastolic hypertension.
Noradrenergic and Specific Serotonergic Antidepressant (NaSSA)

- E.g. Mirtazapine
- It used as a second line agent
- Mirtazapine appears to be useful for elderly patients with insomnia, agitation or restlessness, and anorexia or weight loss.
- Common side effects of mirtazapine include sedation, especially at initiation and at lower dosages, appetite increase and weight gain, dry mouth, and constipation.
- The sedating effects of mirtazapine tend to diminish with acclimation and also tend to be less pronounced at higher dosages where the noradrenergic effects predominate over the antihistaminergic effects.
Atypical antidepressants

- This group is comprised of bupropion, nefazodone, and trazodone.

<table>
<thead>
<tr>
<th>Drug</th>
<th>Starting dose</th>
<th>Suggested dose range</th>
<th>Precautions</th>
<th>Potential advantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bupropion sustained release</td>
<td>75 mg in morning initially then twice daily</td>
<td>150 mg in morning and mid-afternoon (twice daily)</td>
<td>Avoid in seizure disorders and depressed patients with agitation. Dose-dependent increase in diastolic blood pressure. May worsen insomnia.</td>
<td>Stimulant effect may be useful for treatment of depressed patients with low energy and apathy. Low risk of cognitive toxicity. Dopaminergic action may be advantageous for depressed patients with Parkinson disease.</td>
</tr>
<tr>
<td>Vilazodone</td>
<td>10 mg once daily with food for 7 days or more</td>
<td>20 to 40 mg once daily with food</td>
<td>Take with food to assure bioavailability. Diarrhea, nausea, vomiting, dizziness, insomnia. Significant drug interactions via CYP 3A4 require dose adjustment.</td>
<td>Low incidence of weight gain or sexual dysfunction. Role in therapy for treatment of depressed older adults or adults with comorbid illness is not yet defined.</td>
</tr>
<tr>
<td>Trazodone</td>
<td>12.5 to 25 mg taken 30 to 60 minutes before bedtime for hypnotic effects</td>
<td>25 to 100 mg taken 30 to 60 minutes before bedtime for hypnotic effects; antidepressant effects require higher doses</td>
<td>Sedation, orthostatic hypotension, nausea. Residual daytime sedation and cognitive impairment. Reports of hyponatremia.</td>
<td>Used in low doses as adjunct to SSRIs for treatment of insomnia.</td>
</tr>
</tbody>
</table>
Tricyclic and tetracyclic antidepressants

- While no longer considered first or second-line agents for the treatment of depression in any age group, these agents may be useful for treatment failure with other antidepressants.

- It must be used cautiously in patients with cardiac conduction abnormalities, arrhythmias, narrow angle glaucoma, urinary retention, or BPH.

- We should look out for orthostatic hypotension and constipation.

- Patients with Alzheimer-type dementia may experience worsening confusion.
Monoamine oxidase inhibitors (MAOIs)

- This class of antidepressants is rarely used except when previously initiated and tolerated, or in the patient who is treatment resistant to all other antidepressants.

- MAOIs do have proven benefit in atypical (reverse neurovegetative) depression, mixed anxiety-depressive states, and panic disorder.

- They require special dietary and medication restrictions to prevent the serotonin syndrome and hyperadrenergic crisis.

- Common side effects include orthostatic hypotension, activation, and insomnia.

- In contrast to TCAs, these medications are relatively devoid of cardiac conduction effects.
## Summary for use of Antidepressants

### Choice of anti-depressant in different clinical settings

<table>
<thead>
<tr>
<th>Patient symptoms</th>
<th>SSRIs</th>
<th>SNRI</th>
<th>NaSSA</th>
<th>TCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depressed mood</td>
<td>++</td>
<td>+++</td>
<td>++</td>
<td>+++</td>
</tr>
<tr>
<td>Insomnia</td>
<td>-</td>
<td>-</td>
<td>+++</td>
<td>++</td>
</tr>
<tr>
<td>Nervousness</td>
<td>+</td>
<td>+</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>Tiredness</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Headaches</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>++</td>
</tr>
<tr>
<td>Muscle aches</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>++</td>
</tr>
</tbody>
</table>
## Summary for use of Antidepressants

<table>
<thead>
<tr>
<th>Patient symptoms</th>
<th>SSRIs</th>
<th>SNRIs</th>
<th>NaSSAs</th>
<th>TCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insomnia/agitation</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Sleepiness</td>
<td>-</td>
<td>+</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>Nausea</td>
<td>+</td>
<td>++</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Headache</td>
<td>+</td>
<td>++</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Sexual dysfunction</td>
<td>++</td>
<td>++</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Drug interactions</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>++</td>
</tr>
<tr>
<td>Hypotension</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+++</td>
</tr>
<tr>
<td>Anticholinergic SE</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>++</td>
</tr>
</tbody>
</table>

- **SSRIs**: Selective Serotonin Reuptake Inhibitors
- **SNRIs**: Serotonin-Norepinephrine Reuptake Inhibitors
- **NaSSAs**: Noradrenergic and Specific Serotonin Agonists
- **TCA**: Tricyclic Antidepressants

**Side Effects of antidepressants**

- Insomnia/agitation: + indicates common, - indicates uncommon.
- Sleepiness: - indicates uncommon, + and ++ indicate common.
- Nausea: + indicates common, ++ indicates very common.
- Headache: + indicates common, ++ indicates very common.
- Sexual dysfunction: ++ indicates very common.
- Drug interactions: + indicates common, - indicates uncommon.
- Hypotension: + indicates common, ++ indicates very common.
- Anticholinergic SE (dry mouth, blurred vision, constipation): - indicates uncommon, ++ indicates very common.
Summary

- Depression is a common psychiatric problem in elderly population.
- The presentation of depression can be masked by somatic complaints.
- Social history is very important and should be asked explicitly as elderly patient may not be able to tell on their own.
- Carer stress is common among geriatric population as their spouses is of old age and commonly have many chronic illness.
- It is important to coordinate among other disciplines (e.g. nurse, PT, OT, MSW) in order to provide a tailor-make management plan for the patient.