Update in Geriatrics

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82 F w/ mod AD (needs assist with all IADLs), HTN, OA lives with DTR for past 2 years. Dtr reports gradual worsening of restlessness and agitation mostly in the evenings. Becomes angry, insisting to go home, “why are you keeping me here?” poor sleep many nights often wandering in home awakening other family. Few physical outbursts of throwing food across table and pulling on locked front door.

Dtr states may not be able to keep at home.
What is(are) most appropriate next step(s)?

1. Start Sertraline 25 mg daily
2. Counsel dtr in behavioral interventions like redirection, pleasure activity, and environment review.
3. Start Risperidone 0.25 mg in evening.
4. Refer for cognitive behavioral therapy.
5. Start Lorazepam 0.5 mg in evening.
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Relapse Risk after Discontinuation of Risperidone in Alzheimer’s Disease

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Background

- Agitation or psychosis is common in AD
- Symptoms cause distress, caregiver burden, cost and risk of institutionalization
- Among psychotropics, only AP shown benefit over placebo for agitation and psychosis
- AP in AD have increased mortality 1.6 times placebo
Relapse Risk after Discontinuation of Risperidone in Alzheimer’s Disease

• Aims:
  – To determine the risk of relapse after discontinuation of AP
  – To determine optimal length of therapy to prevent relapse
Relapse Risk after Discontinuation of Risperidone in Alzheimer’s Disease

• **Methods:**
  – Initial 16 week response rate to risperidone of 180 pts (112 responded); mean dose 0.97 mg
  – 110 responders randomized to 3 groups:
    • Risperidone 32 wks
    • Risperidone 16 wks + placebo 16 wks
    • Placebo 32 wks
  – **Primary outcome:**
    • Time to relapse of psychosis or agitation
Relapse Risk after Discontinuation of Risperidone in Alzheimer’s Disease

• Methods:
  – Participants:
    • Age $79 \pm 7.6$
    • Female 59%
    • Education $12\text{ yrs } \pm 3.7$
    • Home residence 56%
    • MMSE $13.9 \pm 6.4$
    • Recruited from memory clinics
Relapse Risk after Discontinuation of Risperidone in Alzheimer’s Disease

• Results:
  – At 16 weeks, immediate placebo group had increased risk of relapse of psychosis or agitation (60% vs. 33%); P=0.004; HR 1.94 (1.09-3.45, p=0.02)
  – At 32 weeks, placebo group had increased risk of relapse (48% vs. 15%); P=0.02; HR 4.88 (1.08-21.98, p=0.02)
  – No difference in adverse events or death
• Limitations:
  – Risperidone is not highly effective in achieving or sustaining reduction in psychosis or agitation in AD
  – Rates of discontinuation for any reason:
    • 38% in initial response titration trial
    • 29% of treatment group at 16 weeks
    • 68% of treatment group at 32 weeks
Relapse Risk after Discontinuation of Risperidone in Alzheimer’s Disease

• **Bottom line:**
  – In patients responding to risperidone, discontinuation was associated with increased risk of relapse for at least 4 months.
  – Little evidence of harms of treatment in this population over 48 weeks.
• 71 M with mod OA of knees for past 5 years, miss-stepped off curb injuring right knee 1 week ago. Continued pain esp with weight bearing and steps, swelling and stiffness, painful to turn in bed at night.

• PE: swollen knee w/ effusion, pain with hyper flexion, joint line tenderness with valgus stress, no laxity of joint

• MRI: moderate tri-compartmental OA and medical meniscus tear
What are the best evidence-based recommendations?

1. Pain control with acetaminophen + narcotic.
2. Refer for physical therapy.
3. Activity as tolerated.
4. Refer for possible arthroscopic partial meniscectomy.
5. Perform arthrocentesis.
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Surgery versus Physical Therapy for Meniscal Tear and Osteoarthritis

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Background:

• Arthroscopic debridement has been widely used as a treatment for pts with symptomatic OA (more than 465,000 annually in US).

• Prior studies have not focused on symptomatic meniscal tear in OA.
Surgery vs Physical Therapy for Meniscal Tear and Osteoarthritis

Aims:

• Determine if arthroscopic repair for symptomatic patients with a meniscal tear and knee OA results in better functional outcomes than nonoperative therapy.
Methods:

• Multicenter RCT of mild-mod OA w/ symptomatic meniscal tear
  – 351 pts randomized to surgery + PT vs PT
  – Option for crossover per pt or surgeon
• Functional assessment at 6 and 12 month
• Primary outcome: difference between groups in change in WOMAC scores at 6 months
Surgery vs Physical Therapy for Meniscal Tear and Osteoarthritis

Methods:

• Population:
  – Mean age 59±7.9
  – Female 56%
  – White 85%
  – BMI 30
  – Baseline WOMAC 37 (0 to 100; higher worse)
Results:

- In intention-to-treat analysis, 6 month mean improvement in WOMAC no difference:
  - Surgery 20.9 points (17.9 to 23.9)
  - PT group 18.5 points (15.6 to 21.5)
  - Mean difference 2.4 points (-1.8 to 6.5)
Results:

• At 6 months, 30% crossover to surgery; 6% of surgery group declined
• At 12 months, results unchanged
• Frequency of adverse events did not differ between groups at 12 months.
Surgery vs Physical Therapy for Meniscal Tear and Osteoarthritis

Limitations:

• High rate of crossover typical of surgical trials

• Low enrolment of eligible pts (26%)
  – Pts declined due to strong treatment preference
  – Possible surgical referral bias

• Non-blinded
Bottom line:

- Based upon initial assignment, there was no significant difference between surgery and PT at 6 months.
- Encourage patients to consider PT initially for symptomatic meniscal tear w/ OA.
- If pts still elect for surgery, they are unlikely to have worse outcomes.
91 F w/ HTN, OA, glaucoma admitted for fall and polyarticular gout flare. Asked about DNR status, Pt asks “what are my chances of surviving and being alive in a year?”

What are the most correct answers?
1. Likelihood of surviving arrest to d/c 20%.
2. Likelihood of surviving arrest to d/c 35%.
3. After d/c, 1 year survival 20%.
4. After d/c, 1 year survival 50%.
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Long-Term Outcomes in Elderly Survivors of In-Hospital Cardiac Arrest

Long-Term Outcomes in Elderly Survivors of In-Hospital Cardiac Arrest

Background:

• Little is known about the long-term outcomes in survivors of in-hospital cardiac arrest.

• Older adults are more likely to be questioned about DNR status during hospitalization.
Long-Term Outcomes in Elderly Survivors of In-Hospital Cardiac Arrest

Aims:
• To determine rates of long-term survival and readmission among elderly survivors following in-hospital cardiac arrest.
• Evaluate for differences among patient characteristics and neurological status at the time of discharge.
Long-Term Outcomes in Elderly Survivors of In-Hospital Cardiac Arrest

Methods:
• Cohort study
• 6972 adults, aged 65 years or older
• Discharged from one of 401 hospitals that participate in Get with the Guidelines-Resuscitation registry after surviving an in-hospital cardiac arrest between 2000 and 2008
Long-Term Outcomes in Elderly Survivors of In-Hospital Cardiac Arrest

Methods:

• Mean age 75.8 +/- 7.0 years
• 55.5% male
• 85.7% white and 11.8% black
• Cerebral Perfusion Category 1: 48% (mild or no neuro disability)
• CPC 2: 34% (moderate)
Long-Term Outcomes in Elderly Survivors of In-Hospital Cardiac Arrest

Methods:

• Primary Outcomes:
  – Survival at one year after discharge from the index hospitalization
  – Freedom from readmission at one year after discharge from the index hospitalization

• Secondary Outcomes:
  – Outcomes at 2 and 3 years after discharge from the index hospitalization
Results:

• At 1 yr 58% survival and 34% not readmitted

• Risk adjusted 1-yr survival:
  – Age $\geq$ 85: 49.7%
  – Age 75-84: 58.6%
  – Age 65-74: 63.7%  (p<0.001 for all)
Results:

• Risk adjusted 1-yr survival by CPC status:
  – None to mild: 72.8%
  – Moderate: 61.1%
  – Severe: 42.2%
  – Coma: 10.2% (p<0.001 for all)
Long-Term Outcomes in Elderly Survivors of In-Hospital Cardiac Arrest

Results:

• 2 yr survival: 49.6%
• 3 yr survival: 43.5%
  – Similar to 3-yr survival of CHF pts alive at discharge 44.9%
Limitations:

- Registry is a voluntary QI program of diverse hospitals but may differ from others.
- Excluded Medicare HMO pts (only fee-for-service)
- No info about serial neurological status, quality of life or functional status.
Bottom line:

• Among elderly survivors of in-hospital cardiac arrest, nearly 60% were alive at 1 year.

• Worse neurological status at discharge associated with poorer survival.

• DNR discussions should focus on pt preferences and health status.

• Perhaps do CPR, then GOC discussion??
Affordable Care Act: Annual Wellness Visit Update

Ralston Geriatrics Practice Experience
Ralston Penn Center Geriatrics Practice
Affordable Care Act: Annual Wellness Visit Update

• Free services:
  – Wellness visit
  – Dexa
  – Labs: lipids, glucose, PSA, HIV
  – Colonoscopy/flex sig/FOBT
  – Vaccines: flu, pneumovax, hep B
  – Nutrition consult for DM or CKD
  – Mammogram
  – Pelvic/PAP
Affordable Care Act: Annual Wellness Visit Update

• Scheduled with NP
  – Usually same day before or after PCP visit
  – 60 minute visit
  – Facilitates focus on wellness agenda rather than medical management
  – Very high patient satisfaction
  – Reinforces NP role in care team
Affordable Care Act: Annual Wellness Visit Update

Components:

- Patient Care Team
  - Providers and suppliers
- Assistive devices
- Med review
- History review
  - Smoking status
- VS: BP, wt, ht, BMI
- Hearing
- Functional status
- Depression

- Cognition
  - Mini Cog, MMSE, MOCA
- Falls screen
- Health Maint tab
  - COY, Dexa, Mammo, immunizations
- HM Plan
- Advance directives
- Risk Reduction Counseling
Affordable Care Act: Annual Wellness Visit Update

- Results:
  - Practice size: 2400
  - Visits per year: 6600
  - Wellness visits: 231
  - Pneumovax rate: 76%
    - Pre-wellness: 42%
82 F Hx of osteoporosis on alendronate of past 2 yrs. Recent Dexa shows T scores improved 3% LS, 5% TH and 4% FN. Pt stopped rx due to news of causing “bad” fx’s. What do you recommend?
A. Change to IV bisphos therapy annually.
B. D/c rx and ensure adequate Ca, Vit D, wt bearing exercise, and Dexa 2 yrs.
C. Reassure no increased risk for 5 yrs and cont rx.
D. Change to teriparatide injections.
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A. Change to IV bisphos therapy annually.  
B. D/c rx and ensure adequate Ca, Vit D, wt bearing exercise, and Dexa 2 yrs.  
C. Reassure no increased risk of atypical fx for 5 yrs and cont rx.  
D. Change to teriparatide injections.
Bisphosphonate Use and Risk of Atypical Fractures.
JAMA 2011;305(8):783-789
Bisphosphonate Use and Risk of Atypical Fractures. JAMA 2011;305(8):783-789

Background:

• 50% of older women will have fragility fx
• Mortality 20% in year after fx
• Bisphosphonates effective for primary and secondary prevention of osteoporotic fx
• Recent concerns of prolonged therapy adversely affecting bone strength
Bisphosphonate Use and Risk of Atypical Fractures.  
JAMA 2011;305(8):783-789

Aims:
- To determine whether bisphosphonate therapy increases risk of subtrochanteric or femoral shaft fractures (atypical fx)
- Benefits of therapy in decreasing typical fx secondary endpoint
Bisphosphonate Use and Risk of Atypical Fractures.
JAMA 2011;305(8):783-789

Methods:
• Population-based, nested case-control study of >200K Ontario women > 68 y/o taking bisphosphonates.
• 716 Case patients, 3580 matched controls, 9723 women with typical OP fractures
• Provincial data base on Rx, medical encounters
Results:

• Bisphosphonate use > 5 yr assoc with increased risk of atypical fx (OR=2.74)
• Absolute risk ~ 1-2/1000 in women taking >5 yrs
• No increased risk with shorter term use
• Decreased risk of typical OP fx (OR=0.76)
Bisphosphonate Use and Risk of Atypical Fractures.
JAMA 2011;305(8):783-789

Limitations:

• Potential for confounding variables
• Limited information on lifestyle (smoking, exercise, OTC such as Vit D, BMI, Family History)
• Only a small proportion of cohort received long term bisphosphonate Rx
Bisphosphonate Use and Risk of Atypical Fractures.  
JAMA 2011;305(8):783-789

Bottom Line:

• Benefits for reduction of typical OP fx outweigh risk of atypical fx (10-20 fold)
• Risk of Atypical fx after 5 yrs therapy
• Is a drug holiday warranted after 5 years of therapy?
79 F NH resident hx of mod AD, COPD (40 pkyrs), depression, GIB readmit for fall and L3 comp fx. Started on calcium, Vit D and alendronate. What other rx change should you most consider?

A. D/C donepezil.
B. D/C omeprazole.
C. D/C supplemental calcium
D. D/C paroxetine.
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D. D/C paroxetine
Proton Pump Inhibitor Drugs

- Prilosec
- Zantac 75
- Nexium
- PREVACID

Ref: Arch Int Med 2011;171:998-1004
Background:

- PPIs widely used with potential interaction with absorption of Calcium, vit B12, oral bisphosphonates and perhaps Osteoclast proton pump
- Frequently co-administered with bisphosphonates
PPIs and Risk of Fractures
Arch Int Med 2011;171:998-1004

Aims:
• Determine if concurrent PPI use decreases the efficacy of alendronate in protecting against hip fx

Methods:
• Population-based cohort study of >38K Danes with a mean age 70, prescribed alendronate and followed for ~ 3.5 years
Methods:

- Patients with new Rx for alendronate in national prescription database
- Other medications including H2 receptor blockers, glucocorticoids noted
- Hip fracture primary outcome as measured by National Hospital Discharge Registry
Results:

• Patient taking alendronate alone had 39% reduction in hip fractures HR=0.61 with CI= 0.52-0.71

• Patients taking alendronate and PPI had no significant reduction HR= 0.81 with CI= 0.64-1.01

• No observed interaction in patients taking H2 blockers concurrently
Limitations:

- Observational study so unmeasured confounders may affect results (compliant patients may differ from non-compliant)
- Patients may have filled Rx but not taken them
- No info about non Rx medications
PPIs and Risk of Fractures
Arch Int Med 2011;171:998-1004

Bottom Line:
• PPI may decrease efficacy of bisphosphonates
• Consider stopping PPIs or using H2 blockers as alternatives with bisphosphonates
• Acid suppression of increasing concern for absorption of nutrients, medications and may also increase risk of C. Difficile infection
AGS Updated Beers Criteria
AGS Updated Beers Criteria

• First developed in 1991
• Revised 1997, 2003
• New Revision relies more on evidence-based criteria.
• 53 drugs listed
10 Medications Older Adults Should Avoid or Use With Caution

- NSAID’s (long-acting, e.g., indomethacin)
- Digoxin
- Certain diabetes drugs (Glyburide, chlopropamide)
- Muscle relaxants (Robaxin, Soma)
10 Medications Older Adults Should Avoid or Use With Caution

• Anti-anxiety:
  – Benzodiazepines
    • aprazolam (Xanax)
    • diazepam (Valium)
    • Chlordiazepoxide (Librium)
  – Sleeping
    • xaleplon (Sonata)
    • zolpidem (Ambien)

• Demerol
10 Medications Older Adults Should Avoid or Use With Caution

Anticholinergics:

- Antidepressants:
  - amitriptyline (Elavil)
  - Imipramine (Tofranil)
- IBS: Bentyl
- Avoid certain OTC’s:
  - Diphenhydramine (Benadryl, Tylenol PM)
- Antipsychotics: haloperidol (Haldol), risperidone (Risperdal). Quetapine (Seroquel)
New Beers drugs added:

• Megestrol
• Glyburide
• Zolpidem
• Spironolactone
• New anti-thrombotics:
  – Dabigatran
  – Prasugrel
### New Beers: drugs + disease

<table>
<thead>
<tr>
<th>SSRI’s</th>
<th>Falls &amp; fractures</th>
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<tr>
<td>Cholinesterase inhibitors</td>
<td>Syncope</td>
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<tr>
<td>Glitazones</td>
<td>CHF</td>
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<tr>
<td>Anti-psychotics</td>
<td>Dementia</td>
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Rank the meds most likely to cause emergency hospitalization in the elderly:

- Benzodiazepines
- Digoxin
- Insulin
- Warfarin
- Opioid analgesics
- Diphenhydramine
- Oral hypoglycemics
- Anti-platelet agents
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3. Digoxin
4. Oral hypoglycemics
5. Anti-platelet agents
6. Opioid analgesics
7. Benzodiazepines
8. Diphenhydramine
Emergency hospitalizations due to ADR’s

NEJM 2012;365:2001-12

Design:
Define the major drugs responsible for emergency hospitalization due to ADR’s in older adults.

Methods:
ADR data from a large national data base of ADR’s from 2007-2009 involving patients > age 65.
Emergency hospitalizations due to ADR’s
NEJM 2012;365:2001-12