HOW AND WHEN TO STOP CARDIAC MEDICATIONS IN YOUR HEART FAILURE PATIENTS

Is there ever a time?
May 10, 2019

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Disclosures

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• **No conflict with respect to the current topic**
Objectives

How and when to stop cardiac medications in your heart failure patients

Elizabeth Swiggum, MD

After this workshop, participants will be able to:

1. Understand the implications for withdrawal of evidence-based therapy in patients with recovered ejection fraction
2. Identify clinical scenarios where withdrawal of therapy is likely to be safe
3. Formulate a practical approach to discussing medical withdrawal with HF patients
Case 1 WL

- 49 Female Jan 2010
  - 2 d fever, chills, NV, RUQ pain
  - Cardiogenic shock
  - VT
- ECG STE ANT
  - Trop elevated
- Echo LVEF 15-20% (biventricular)
- Angiogram Normal coronaries
  - EMBx performed
    - Lymphocytic myocarditis
- ECMO
  - emboli to leg
  - fasciotomy
  - transfer to higher level of care
  - Heart Mate II LVAD
    - GI bleed
    - Acute renal injury
Case WL 6 mo later

- Referred to home HFC
- Echo VAD insitu
  - April 2010 EF 70%
- Post Explant VAD 1 mo
  - June 2010 EF 60%

- Physical
  - 110/60, HR 60 Sinus
  - JVP +3cm ASA

- Medications
  - Carvedilol 6.25 mg BID
  - Esomeprazole 40 mg OD
  - Trazodone 100 qhs
  - Calcium 500 mg TID
  - Ferrous gluconate 600 mg qhs
  - Colace 200 mg daily
  - Immune 7 BID
  - Zinc 50 mg daily
Case WL 6 mo later

- NYHA I-II
- Trainer 1 hr per day

- **Laboratory**
  - NT proBNP 2025 pg/mL (14,004)
  - eGFR 54
WHERE DO WE GO FROM HERE?
Where do we go from here?

- Increase guideline directed medication
- Reduce medication
  - which ones?
- Surveillance of heart function
# Society Guidelines

## 2017 Comprehensive Update of the Canadian Cardiovascular Society Guidelines for the Management of Heart Failure

**Primary Panel:** Justin A. Ezekowitz, MBBCh (Chair), a Eileen O’Meara, MD (Co-chair), b Michael A. McDonald, MD, c Howard Abrams, MD, c Michael Chan, MBBS, d

### Table 12. Potential scenarios in which evidence-based medical therapy for heart failure might be withdrawn

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Withdrawal of pharmacological treatment for heart failure in patients with recovered dilated cardiomyopathy (TRED-HF): an open-label, pilot, randomised trial


Summary

Background Patients with dilated cardiomyopathy whose symptoms and cardiac function have recovered often ask whether their medications can be stopped. The safety of withdrawing treatment in this situation is unknown.
Withdrawal of pharmacologic therapy in patients with dilated CMO

- 51 patients randomized open label trial
  - stepwise withdrawal
  - continued therapy
  - single X-over at 6 mo for withdrawal
- 6 mo follow up

- Inclusion
  - Prior CMO LVEF <40%
  - Asymptomatic on therapy
  - Current LVEF >50%
    - Normal LVEDVi
    - NT proBNP <250 ng/L

1º Brian Halliday, senior author Sanjay Prasad Brompton Hospital, London
Figure 1: Flowchart of TRED-HF study design
Withdrawal of pharmacologic therapy in patients with dilated CMO

**Endpoint measure**

Relapse of dilated CMO
- LVEF worse by 10% and <50%
- LVEDV increase by 10%
- 2X rise in NT-pro BNP and >400 ng/L
- Clinical HF
Lessons from TRED HF

- 40% had relapse within 6 mo of medication withdrawal
  - majority had deterioration within 16 weeks

- 50% of patients had successful medication withdrawal
  - is 6 mo long enough?
Lessons from TRED HF

- Recovery ≠ Cure

- But does it mean Remission?
How does this apply to my patient?
**Case WL 7 yr later**

- Periodic follow up in HFC
- Echo EF 50-55%
  - apical aneurysm from VAD
- Physical
  - 102/59, HR 66 Sinus
  - JVP ASA
  - wide split 2nd HS

**Medications**
- Cipralex 20 mg
- Trazodone 25 qhs

- eGFR 47
- NT proBNP 386 pg/mL
What would you recommend for surveillance?
NYHA I or LVEF > 35%
Continue present management

NYHA I–III and LVEF ≤ 35%
Refer to ICD/CRT algorithm

NYHA IV
Consider:
- Hydralazine/nitrates
- Referral for advanced HF therapy (mechanical circulatory support/transplant)
- Palliative Care referral

Reassess every 1–3 years or with clinical status change

Consider LVEF reassessment every 1–5 years

Reassess as needed according to clinical status

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* ARNI: angiotensin II receptor blocker neprilysin inhibitor (sacubitril/valsartan)
† Refer to Table 5
ACEi, angiotensin-converting enzyme inhibitor; AF, atrial fibrillation; ARB, angiotensin receptor blocker; BB, beta blocker; bpm, beats per minute; CRT, cardiac resynchronization therapy; HF, heart failure; ICD, implantable cardioverter defibrillator; LVEF, left ventricular ejection fraction; MRA, mineralocorticoid receptor antagonist; NYHA, New York Heart Association; SR, sinus rhythm.
HEART FAILURE CARE

LOW-RISK INDIVIDUAL
- NYHA I or II
- No hospitalizations in past year
- No recent changes in medications
- Receiving optimal medical/device HF therapies

Follow-up every 6–12 months

INTERMEDIATE-RISK INDIVIDUAL
- No clear features of high or low risk

Follow-up every 1–6 months

HIGH-RISK INDIVIDUAL
- NYHA III or IV symptoms
- Recent HF hospitalization
- During titration of HF medications
- New onset heart failure
- Complications of HF therapy (rising creatinine, hypotension)
- Need to down-titrate or discontinue β-blockers or ACEI/ARB
- Severe-concomitant and active illness (eg. COPD, frailty)
- Frequent ICD firings (1 month)

Follow-up every 1–4 weeks or as clinically indicated (remote monitoring possible for some titrations)

Make inactive or consider for discharge from HF clinic if a minimum of 2 of the following characteristics are present:

- NYHA I or II for 6–12 months
- Receiving optimal therapies
- Reversible causes of HF fully controlled
- Having access to family physician with expertise in management of HF
- Adherence to optimal HF therapy
- No hospitalization for > 1 year
- LVEF > 35% (consistently on >1 EF measurement)
- Primary care provider has access to urgent specialist reassessment
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>80g per day for 5 yr or longer
>6 drinks per day

141 patients ACM
716 DCM
445 controls

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Case 2 SL

- 2005 woman 25 y.o.
- Right Breast CA - ductal carcinoma
  - ER+, PR+, Her/neu+
  - Excision, CEF x 6, radiation
  - Herceptin x 9 weeks
  - EF 33%

- Herceptin discontinued
  - Ramipril
  - Bisoprolol
  - LVEF 55%
Case SL Can I Stop my cardiac medications?

- 2007 woman 27 y.o.
- REALLY???
  - Well...ok let's try one

- Bisoprolol weaned off EF dropped within 3mo
  - Ramipril
  - Bisoprolol
  - LVEF 55%
Case SL Doctor I’m pregnant…with twins

- 2009 woman 29 y.o.
- REALLY???
  - Well…ok let’s not panic
  - Ramipril stopped
  - Tamoxifen stopped
  - Fetal screening
    - Everyone was ok

- Medications
  - NTG/Hydralazine
  - Bisoprolol
  - LVEF 40-45%
  - Returned to usual Rx post delivery
  - LVEF 50%
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THERE IS A PLACE AND TIME

Mr. Tu Lo
Mr. P. Lee Yate
Case 3 Tu Lo 2016

- Bilateral carpal tunnel 2005
- Spinal stenosis
- HHF 2014, stents x 2 LAD for 80% disease
- HTN age 34
- Afib converted on amiodarone
- Echo EF 55-60%
  - LVd 4.4/ LVs 3.5
  - IVS/PW 16/16 mm
  - Sinus rhythm
  - SBP 90, HR 65, JVP ASA
  - eGFR 25
Tu Lo 2017

- RHC and biopsy 2016
- wt ATTR CA

- Medications
  - nebivolol
  - Ramipril 1.25
  - furosemide 120 mg BID
  - amiodarone
  - apixaban
  - rosuvastatin
He tells you he is fatigued and dizzy upon standing.

Should the medications be adjusted?

- Medications
  - nebivolol
  - Ramipril 1.25
  - furosemide 120 mg BID
  - amiodarone
  - apixaban
  - rosuvastatin
He tells you he is fatigued and dizzy upon standing

Should the medications be adjusted?

Medications

- spironolactone 12.5 mg daily
- furosemide 80 mg BID
- amiodarone
- apixaban renal dose
- rosuvastatin
LAST CASE
Case 4 Mr. P. Lee Yate

- 74 y.o male
- MI, CABG age 43
  - EF 35% RV impaired
- Afib, prior stroke
- PVD, CVD
- CKD eGFR 18
  - MPO vasculitis
- Bladder CA
- T2DM
- NYHA IV
- Abdominal ascites
  - poor appetite
- BP 137/57, HR 61
- JVP mandible in sitting position
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<td>Hydralazine 50 mg TID</td>
<td>Pantoprazole 40 mg</td>
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<td>Amlodipine 10 mg</td>
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<td>Alpha calcidiol 0.25 mug MWF</td>
</tr>
<tr>
<td>Metalozone</td>
<td>Ferrous fumarate 300 mg qhs</td>
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<tr>
<td>spironolactone 12.5 mg daily</td>
<td>hydromorphone 1-3 mg daily pen</td>
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<td>Atorvastatin 20 mg daily</td>
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<td>ASA 81 mg</td>
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Mr. P. Lee Yate

- Medications
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  - Alpha calcidiol 0.25 mug MWF
  - Ferrous fumarate 300 mg qhs
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Can we deprescribe anything? Not on a beta blocker…
What if your patient has symptomatic hypotension?
Mr. P. Lee Yate with symptomatic hypotension

- Medications
  - NTG patch 0.4 mg
  - Hydralazine 50 mg TID
  - Amlodipine 10 mg
  - Furosemide 80-120 mg BID
  - Metalzone
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  - ASA 81 mg

- Insulin
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  - Ferrous fumarate 300 mg qhs
  - hydromorphone 1-3 mg daily pen

Can we deprescribe anything?
PRACTICAL DEPRESCRIBING
Commitment to the patient

- Wean off
- Reassess
- Wean off
- Reassess

Ongoing surveillance

Can you delegate the surveillance?
Comments and Considerations

• Medication withdrawal has a high likelihood of relapse
• When considering it requires a tailored approach
  • Information
  • Surveillance
  • Willingness to re-engage