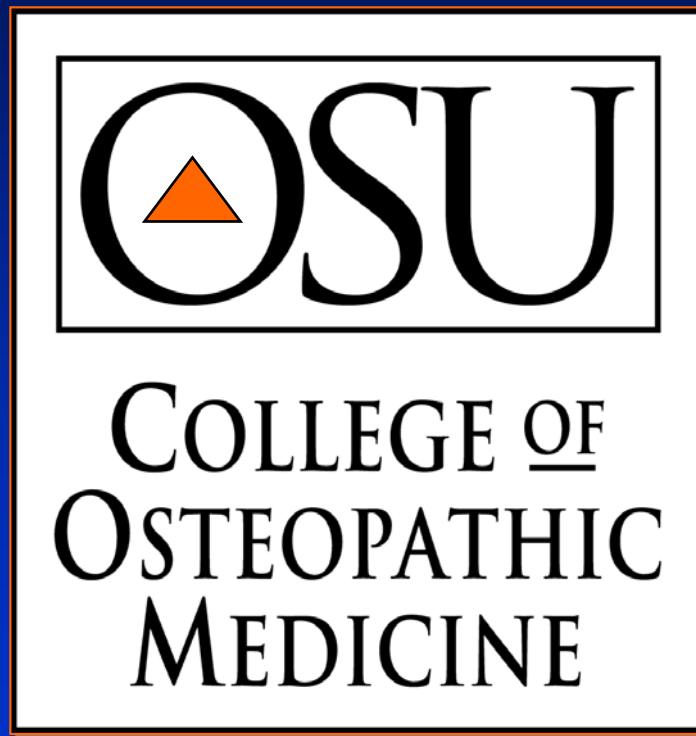


# Cardiac Care in a Rural Setting

---

---



Randy Grellner D.O.

-----Family Practice B-----

# Introduction

---

---

- Cardiac care in a rural setting requires full understanding of coronary heart disease (CHD)
- Lack of invasive coronary angioplasty makes proper medical management crucial.

# Objectives

---

---

- List major risk factors for CHD.
- Identify modifiable risk factors and interventions
- Describe medical management of acute myocardial infarction when primary prevention fails.

# Major Risk Factors CHD

---

---

- 1. AGE- Male > 45 years of age
- Females > 55 years or premature menopause and not on ERT.
- 2. Family history of CHD
- 3. Hypertension
- 4. Cigarette smoking
- 5. Diabetes
- 6. HDL <35 or LDL >160

# Modifiable Risk Factors

---

---

- Hypertension
- Diabetes Mellitus
- Lipid abnormalities
- Cigarette smoking

# Hypertension Diagnosis

---

---

- Diagnosis requires the following;
  - Measurement of Systolic BP and Diastolic BP on 2 or more after initial evaluation.

# Hypertension Diagnosis

---

---

- Stage 1- SBP 140-159 and/or DBP 90-99
- Stage 2- SBP 160-179 and/or DBP 100- 109
- Stage 3- SBP 180-209 and/or DBP 110- 119
- Stage 4- SBP > 210 and/or DBP > 120

# Hypertension Management

---

---

- Lifestyle modifications
  - Reduce alcohol
  - Weight reduction
  - Aerobic exercise
  - Salt reduction
- Pharmacological treatment
  - Beta blockers and thiazide diuretics
  - Additional drug categories

# Diabetes Mellitus Diagnosis

---

---

- Random FSBS  $> 200$  mg/dL
  - With symptoms
- Fasting Blood sugar of  $>$  than 125 mg/dL on two or more occasions
- BS of  $> 200$  mg/dL 2 hours after 75g glucose challenge

# Diabetes Management

---

---

- Diet is key to long term control
- Exercise helps utilize insulin
- Insulin for type 1 diabetics
- Oral medications for type 2 diabetics
  - Sulfonureas
  - Metformin
  - Troglitazone
  - Acarbose

# Lipid Abnormalities

## **HDL <35 and/or LDL > 160**

---

- Dietary restrictions
- Stage 1 diet
  - 30% of total daily calories from fat
  - Less than 10% of calories from saturated fat
- Stage 2 diet
  - 30% of total calories from fat
  - Less than 7% of calories from sat. fat

# Lipid Abnormalities

---

---

- Medications only after dietary failure
- Drugs for lipid control:
  - Nicotinic acid
  - HMG coenzyme A reductase inhibitors
  - Gemfibrozil
  - Bile acid sequestrants

# Treatment Acute Myocardial Infarction

---

---

- Making the diagnosis?
  - Clinical suspicion from history
  - EKG changes
  - Enzyme elevation
    - CKMB-Troponin I
  - Physical exam (murmur-bruits)

# What Treatment Immediately?

---

---

- Unless contraindicated all patients with AMI should be given ASA.
- Beta-Blockers are first line therapy also if B/P can tolerate. Watch out for patients with contraindications.
- Oxygen at 4L/ min

# The Patient Is Still Having Chest Pain!!!

---

---

- Nitrates
  - venodilatation
  - reduce after load in congestive heart failure.
- Morphine
  - reduces anxiety
  - decreases catecholamine production.

# What Other Steps Are Crucial?

---

---

- Thrombolytic therapy
  - tPA
  - Streptokinase
  - contraindications for thrombolytics ?
- Heparin therapy to reduce reocclusion after tPA

# Reperfusion Arrhythmias - Caution

---

---

- Reperfusion rates for tPA are between 75-90%.
- Ventricular tachycardia and even sinus bradycardia are signs of reperfusion.
  - Use ACLS protocols

# Transport - Helicopter Here Yet?

---

---

- After medically stable, send patient to a tertiary center for intensive therapy.
- Coronary catheterization is the gold standard in diagnosing CHD
- Need angioplasty or CABG capability in referral center

# Summary

---

---

- Treatment of major risk factors for CHD should be the primary focus.
- Medical management with ASA, beta blockers, nitrates, thrombolytics and heparin should allow for stabilization of the patient.
- Transfer after stable for definitive diagnostic work up.

# References

---

---

- Archives of Internal Medicine/VOL 157, Nov 24, 1997 Pages 2413-2438
- Textbook of Family Practice, RAKEL, 5th edition, Pages 764-801