Treatment of Resistant Hypertension in the African American Population

Satellite Conference and Live Webcast
Thursday, October 20, 2011
9:00 -10:00 a.m. Central Time

Produced by the Alabama Department of Public Health
Video Communications and Distance Learning Division

Faculty

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Clinical Significance of Resistant Hypertension

- **As of the year 2008, the Centers for Disease Control and Prevention (CDC) estimates:**
  - **68 million patients at least 18 years of age suffer from hypertension in the United States**

Clinical Significance of Resistant Hypertension

- **Approximately 20-30% of those patients are considered to have resistant hypertension**

Clinical Significance of Resistant Hypertension

- **Resistant hypertension plays a noteworthy role in healthcare complications and will continue to drive up the cost of healthcare in the coming years**

Clinical Significance of Resistant Hypertension

- **The Alabama State Profile and Policy Report determines the cost of treatment for hypertension in the state of Alabama to be around $71 billion dollars as of the year 2010**

Resistant Hypertension

- Specific data regarding the percentage of resistant hypertension in the African American population is limited
- However, research suggests that African Americans in the United States are disproportionately affected by illness, injury, and disease

Resistant Hypertension Defined

- Resistant hypertension is defined as hypertension that is uncontrolled with the maximum dosage of at least three anti-hypertensives which include at least one diuretic

Contributing Factors

- There are many factors which contribute to hypertension that cannot be altered such as age, gender, race, and genes
- Modifiable factors include:
  - Physical inactivity
  - Tobacco use

Contributing Factors

- Alcohol intake
- Sodium and potassium intake
- Obesity

Resistant Hypertension vs. Uncontrolled Hypertension

- It is important to distinguish between uncontrolled hypertension and resistant hypertension
- Uncontrolled hypertension can be caused by several underlying factors and must all be excluded before a diagnosis of resistant hypertension is established

Uncontrolled Hypertension

- White coat syndrome
- Certain medications
- Poor medication adherence
- Inadequate blood pressure cuff size
- Physiological components such as pheochromocytoma and arteriosclerosis

White Coat Syndrome

- White coat syndrome is defined as elevations in blood pressure related to the stress of doctor office visits

Dispelling White Coat Syndrome

- Ambulatory monitoring device
- Blood pressure log from home

Psuedohypertension

- Arteriosclerosis
  - Hardening of the arteries which must be ruled out through various imaging procedures
- Pheochromocytoma
  - Hormone producing adrenal tumor identified via a renal ultrasound

Medicinal Causes

- Drugs that inhibit blood pressure meds or cause false elevations in blood pressure
  - NSAIDS, decongestants, oral contraceptive pills, migraine meds, weight loss drugs
  - Noncompliance

Other Contributing Factors to Uncontrolled Hypertension

- Healthcare providers must also ensure that the correct size cuff is used when measuring blood pressures
- Use of blood pressure cuffs that are too small can result in falsely elevated blood pressure readings

Evidence Based Strategies

- In a joint study between the American Heart Association and the Mayo Clinic:
  - Cardiac output, vascular resistance, and intravascular volume were measured

Evidence Based Strategies

- The findings determined that patients referred for resistant hypertension often had an increase in intravascular volume as one of the contributing factors for treatment resistance

Evidence Based Strategies

- Blood pressure control was improved primarily through the use of increased doses of diuretics
- Research revealed the most effective diuretic, as it relates to resistant hypertension, to be Aldactone

Evidence Based Strategies

- In another study by Baker and colleagues (2002), the use of Amiloride was recommended for the treatment of resistant hypertension in African Americans because of the possibility of variations in sodium and water retention

Evidence Based Strategies

- Diuretic use must be optimized in the treatment of resistant hypertension
- Research findings cite this approach as the first line treatment in combating resistant hypertension
- Several examples of diuretics are:
  - Aldactone
  - Triamterene
  - Hydrochlorothiazide (HCTZ)

Evidence Based Strategies

  - Lasix
  - Amiloride

Evidence Based Strategies

- Obviously, diuretic therapy in conjunction with other drug classes is often needed to obtain optimal control of blood pressure

Defining the Plan for Successful Outcomes

- A plan for effective management must be identified by the provider and the patient
  - Dietary changes
  - Weight loss
  - Culturally sensitive education

Defining the Plan for Successful Outcomes

- Adequate medication therapy
- Alcohol in moderation
- Smoking cessation

Complications of Resistant Hypertension

- Heart Attacks
- Strokes
- Renal Failure

Culturally Sensitive Approaches

- The role of education
  - Alexander, Gordon, Davis, and Chen (2003) identified patient knowledge and awareness of blood pressure as an important factor in the ability to successfully control hypertension

Culturally Sensitive Approaches

- Many patients are unaware of the significance of resistant hypertension
- Most have not been educated in a culturally sensitive manner on the disease process or have not been provided with information that will enhance patient outcomes

The Role of Education

- Méndez-Chacón, Santamaría-Ulloa and Rosero-Bixby (2008) identified unawareness of hypertension at a high rate despite national programs for hypertension and detection

The Role of Education

- The healthcare provider must be sensitive to the educational level of each patient and be mindful of the patient's level of understanding when providing teaching material that is culturally sensitive

The Role of Education

- Haafkens and colleagues (2009) utilized the guidelines from Joint National Committee-7 during their research and provided evidence to support the idea that patient education is a means of improving patients' motivation for and ability to adhere to hypertension treatment guidelines

The Role of Communication

- There is evidence to support interventions directed at physician communication as an avenue to improve patient compliance and clinical outcomes

The Role of Communication

- Hulka and colleagues (1976) found an association between effective physician/patient communication and high levels of compliance

The Role of Communication

- JNC7 guidelines emphasize applying empathy and building a trusting relationship, which will help to increase motivation so that the patients are more likely to comply with anti-hypertensive therapy

The Role of Communication

- It is important for the provider to remember that nurse practitioners' understanding of the disease process is often very different from the patient population's perspective

The Role of Communication

- Haafkens and colleagues (2009) advise healthcare providers and educators to:
  - Employ "patient- centered" educational approaches to facilitate the exploration of patient's beliefs and needs and to find common ground between healthcare providers and patients

Health Disparities

- As it is well known, the health disparities in communities as it relates to minorities and hypertension are innumerable
- Health disparities is defined as the gap in quality of health and healthcare across racial, economic, sexual orientation, and socioeconomic groups

Health Disparities

- For many conditions, African Americans bear a disproportionate burden of illness, injury, and disabilities in the United States
- This equates to earlier death, decrease in quality of life, less productivity in life, and higher healthcare costs

Health Disparities

- According to Ferdinand (2010), African Americans in the United States have one of the highest rates of hypertension in the world and, in comparison to whites, have:
  - Earlier onset
  - Poorer control
  - Increased target organ damage
  - More prevalent co-existing conditions

Health Disparities

- Eliminating these disparities will necessitate a culturally sensitive approach, including but not limited to:
  - Education
  - Community support
  - Access to quality healthcare
  - Center for Disease Control, 2005

Conclusion

- Current research has expanded to include resistant hypertension
- Although information is limited to identification, diagnosis, and treatment of the condition

Conclusion

- Nurse practitioners are charged to pursue education regarding the latest approaches for successful patient outcomes

Conclusion

- The healthcare provider must embrace and utilize multi-disciplinary teams, including but not limited to, dieticians, pharmacists, and other primary healthcare providers in the management of resistant hypertension

Conclusion

- Nurse practitioners must integrate culturally sensitive communication and patient-centered education into the treatment of resistant hypertension

Conclusion

- This strategy, combined with pharmacological and non-pharmacological methods, will play a major role in reducing the morbidity and mortality rate in African American patients with a diagnosis of resistant hypertension

Case Study #1

- This is an African American Male who is 54 years old
- He smoked ½ pack of cigarettes/day until 10 years ago
- He has been on Atenolol 100mg daily, Norvasc 10mg, daily and Micardis/HCT 80/25 mg daily
- His blood pressure is 158/95

Case Study #1

- He is a retired teacher and does not have insurance
- He has no history of DM, CAD, or renal disease
- What are some options for this patient?

Case Study #2

- This is a 28 year old African American male with a history of hypertension
- He is currently on Norvasc 10, HCTZ 25mg, and Clonidine 0.2 bid
- His BP is 146/99
- His medical history is limited to Gouty arthritis

Case Study #2

- What is the first course of action for this patient?
- What should be one of our main concerns with this male patient?

Case Study #3

- 42 year old African American female with a history of hyperthyroidism and rheumatoid arthritis
- Her most recent blood pressure is 146/101
- She is currently on Labetolol 100mg bid, Clonidine 0.2mg bid, HCTZ 50mg daily

Case Study #3

- What medication concerns might we have regarding her hypertension?
- What alternatives could we consider in her medication regimen?

Case Study #4

- 52 year old African American female with history of BLE edema and hypertension
- Her most recent blood pressure reading is 176/112
- Her current blood pressure meds include Metoprolol 100mg bid, Furosemide 40mg bid, and Clonidine 0.3 bid

Case Study #4

- Clonidine was increased 6 weeks ago
- Until then, her average BP was 158/94
- What medication adjustments would be best for this patient?

Case Study #5

- 82 year old African American female in for routine visit
- Her med hx includes DM and HTN
- Medications include Hyzaar 100/25mg and Toprol XL 100mg

Case Study #5

- Her BP has been controlled on the same meds for the last 10 years, but her BPs at the last two visits have been >145/90
- What would be our primary concerns in the patient?

Resources

- National Conference of State Legislatures, (2011). Alabama state profile and policy report. Retrieved February 3, 2011 from: http://www.ncsl.org/default.aspx?tabid=16859

Resources

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