Hypertensive disease in Black patients.

Professor Mohamed Ben Hmida
Dept of Nephrology
Hedi Chaker Hospital
Sfax Tunisia

Hypertensive disease in Tunisian Black patients

- It has been proposed that in B lower educational level and reduced access to medical care may contribute to the development of the target organ complications.
- In Tunisia, when socio-cultural and economic factors contributing to H do exist, no correlation with ethnic origin is found.

Results

	White	Black	p
• Age (yr)	51 ± 11	50 ± 12	ns
• Obesity (BMI)	65 %	78 %	0.05

Anti-HT treatment

	White	Black	p
• Monotherapy	61 %	47 %	0.05
• Bitherapy	38 %	41 %	ns
• Tritherapy	1 %	12 %	0.01

Complications

	White	Black	p
• Coronary D	2 %	11 %	0.001
• LVH	4 %	11 %	0.02
• Stroke	1 %	7 %	0.001
• Retinopathy II/III	0/2 %	4/28 %	0.001

Complications

	White	Black	p
• Pl Cr (µmol/l)	79±30	115±68	0.001
• Cr Cl (ml/mn)	110±40	88±42	0.02
• U Pr (g/24h)	0.17±0.1	0.53±0.1	0.001

Blood pressure control

	White	Black	p
• Well	49 %	9 %	0.001
• Mild	49 %	65 %	0.001
• Uncontrolled	2 %	26 %	0.001

H is more severe in Tunisian B than in W

- H is the major health problem of adult Tunisian B
- High incidence of obesity (78 % vs 65 % $p<0.05$)
- At the 1st visit, complications (21% vs 10%$p<0.03$)

H is more severe in Tunisian B than in W

- Uncontrolled BP (26% vs 2% p<0.001)
- High frequency of TOD (LVH, CD & CRF)
- Increased severity of Retinopathy
- Greater rate of n-F and fatal stroke (7% vs 1% 0.001)

H is more severe in Tunisian B than in W

- In Tunisia B migration from equatorial regions may have a profound effect on Na metabolism.
- Thus, it seems likely that abrupt changes in salt diet to which metabolism adaptation had occurred over millennia, may have produced metabolic and physiologic adjustments on varying degree.

H is more severe in Tunisian B than in W

- Our study shows that in the absence of difference in socio-cultural and economic factors, H in B seems to be unusually more severe in terms of BP levels, refractoriness to treatment and target organ damage than in W.

Incidence and complications

- H in pregnant B w contributes to poor birth outcomes.
- The rate of chronic H preceding pregnancy was about 2.5 times higher among B w.
- The incidence of H among pregnant B w was 64.2 compared with 48.6 per 1,000 deliveries for other w.
- This may contribute to the
  - greater incidence of low birth weight,
  - preterm deliveries,
  - and infant sickness and death among B w in the United States.

    - Aziz R *Obstetrics & Gynecology* 2004, 87(4), pp. 557-563

Incidence and complications

- H is also a major disease in the B populations of south & sub-Saharan Africa
- Not only does H occur more frequently among this group,
- it also presents itself earlier in their life,
- and causes increased complications of CV and kidney diseases compared with W.

Hypertension Has Genetic Cause in Blacks

- Great similarities between H in B and LS.
- Screening hypertensive and control B patients found an increased frequency of T594M mutation in those with H.
- The increase (8.3% vs 2.1%) was significant even after adjustment for BMI and gender.

Non-pharmacological management

- Salt restriction by itself is problematic.
- Even though we prescribe it a lot of times, it requires an unprecedented amount of change in environment, habit and lifestyle.
- The average Na intake is about 3 g.

Pharmacological management

- ACE block the effects of TGF- ß and are effective in reducing hypertensive complications that occur more often in B.
- Moreover, the hypotensive response to ACE in B is augmented when they are on thiazide diuretics.

Pharmacological management

- Amiloride is a direct inhibitor of ENaC
- Improvement in BP with inhibition of the ENaC in blacks with hypertension.
  - Saha Hypertension. 2005

Concluding remarks: Approaches to treat hypertension in Blacks

- Dietary management is beneficial and even more so in B.
- Reduce BP < 140/90 for B pts as a group.
- RAS inhibitors have important renal protective and CV benefit and should be included in the multiple drug regimens that are often essential in B.

Special Therapeutic Recommendations for Management of Hypertension in Blacks

- Treatment with Antihypertensive Drugs
  - As recommended by JNC 7, diuretics should be used for initial therapy unless there is an absolute or relative contraindication (eg gout).
  - Thiazide in a dosage of 12.5 to 25.0 mg daily is a good choice.
  - If Sr creatinine is 2 mg per dL or more, thiazide diuretics are usually ineffective, and a loop-type diuretic should be substituted.

Special Therapeutic Recommendations for Management of Hypertension in Blacks

- Recent studies suggest that regimens containing a thiazide-type diuretic:
  - are unsurpassed in BP lowering and prevention of major clinical complications,
  - and they cost less.
- Thus, while other agents may be required for selected clinical indications or for BP control, diuretics should be drugs of first choice or included in most antihypertensive regimens especially in B.

Special Therapeutic Recommendations for Management of Hypertension in Blacks

- Treatment with Antihypertensive Drugs
  - ACE, ARBs or ß- are less effective in lowering BP when used in monotherapy.
  - The blunted response to ACE, ARBs or ß- can be abolished by adding a diuretic.
  - Most B pts require 2 or more drugs to control BP to < 140/ 90 (current goals recommended by JNC 7 for pts with uncomplicated H).

Special Therapeutic Recommendations for Management of Hypertension in Blacks

- Compliance among B pts
  - Poor compliance with prescribed treatment is cited as the major reason for inadequate control of H in B.
  - Improved understanding of pts' beliefs about H could aid the development of public health strategies to reduce or control the disease.