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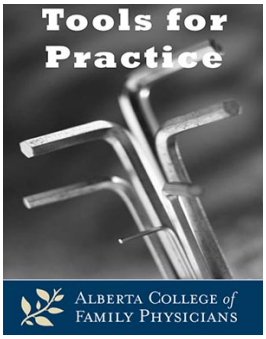

What is Urgent About Hypertensive Urgency?

Clinical Question: What are the risks for asymptomatic patients who present with significantly elevated blood pressure?

Bottom-line: Patients with markedly elevated blood pressures (BPs) (mean 186/121 mmHg) have ~40% risk of cardiovascular disease (CVD) at 18 months if untreated. The risk for treated patients ranges from 14% at one month to 1.2% at six months. Outcomes influenced by presenting BPs (and measurement accuracy), patient co-morbidities, follow-up, socio-economic status and ethnicity. For most asymptomatic patients with BPs >180/110 mmHg, addition or initiation of oral agents at presentation with close outpatient follow-up is reasonable.

Evidence:

- Randomized Controlled Trial (from 1967):
  - 143 hospitalized males (mean BP 186/121 mmHg) randomized to hydrochlorothiazide, reserpine, and hydralazine versus placebo.[1]
    - At 18 months, death, CVD, intracerebral/retinal hemorrhage: 3% versus 39% (placebo): Number Needed to Treat=3.
- Cohort studies of treated patients:
  - 58,535 American outpatients (mean BP 185/96 mmHg), 73% known hypertensive, ~60% on ≥2 BP meds, ~25% known CVD.[2]
    - At six months, CVD, stroke or transient ischemic attack=1.2%.
      - No difference between in- or out-patient management.
    - Limitation: 4.6% of ~2 million office visits had BP>180/110 mmHg – suspect BP measurement inaccuracies.
  - 384 Austrians (BP >220/120 mmHg) recruited after receiving oral treatment in emergency department (ED).[3] Patients had numerous investigations/follow-up.
    - At four years, CVD, heart failure (HF), or atrial fibrillation=23%.
  - 164 Swiss primary care outpatients (mean BP 198/101 mmHg).[4] 90% asymptomatic or 'urgent' (had non-specific symptoms: Headache, dizziness).
    - At one year, CVD, HF or peripheral vascular disease=12.8%.

        - Limitation: Treating physician reported outcomes.
    - 91 inner city African/Hispanic patients in ED (mean BP 209/128 mmHg).[5] Non-specific symptoms (example headache, dizziness) in ~66%, 50% known CVD. Majority treated with oral agents (clonidine), most had no follow up.
        - At one month, CVD, HF, or encephalopathy=14%.

Context:

- Definition of hypertensive urgency varies between studies.
- While optimal speed of BP lowering remains unknown,[6] rapid reduction in asymptomatic patients is discouraged.[7]
- Most hypertensive urgencies occur in known hypertensives,[2,4,8,9] often due to medication non-adherance.[2,5,10]
- Hypertension with acute end-organ damage (example: CVD, aortic dissection, encephalopathy)[11] requires immediate intravenous treatment.[9]

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Authors do not have any conflicts of interest to declare.

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Tools for Practice is a biweekly article summarizing medical evidence with a focus on topical issues and practice modifying information. It is coordinated by G. Michael Allan, MD, CCFP and the content is written by practising family physicians who are joined occasionally by a health professional from another medical specialty or health discipline. Each article is peer-reviewed, ensuring it maintains a high standard of quality, accuracy, and academic integrity. If you are not a member of the ACFP and would like to receive the TFP emails, please sign up for the distribution list at http://bit.ly/signupfortfps. Archived articles are available on the ACFP website.