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How Low Should We Go?

Blood Pressure Targets for the Treatment of People with Hypertension and Cardiovascular Disease

Hypertension is a prominent preventable cause of premature morbidity and mortality. People with hypertension and established cardiovascular disease are at high risk, so reducing blood pressure to below standard targets may be beneficial. The optimal blood pressure target in people with hypertension and established cardiovascular disease remains unknown.

The latest US guideline recommends a blood pressure target less than 130/80 mmHg for adults with confirmed hypertension and known CVD (ACC-AHA 2017). World Health Organization (WHO) 2021 also recommends a target SBP treatment goal of less than 130 mmHg in people with hypertension and known CVD.

This analysis (Cochrane Database of Systematic Reviews 2022, issue 11) set out to determine if lower blood pressure targets (systolic/diastolic 135/85 mmHg or less) are associated with reduction in mortality and morbidity compared with standard blood pressure targets (140 mmHg to 160mmHg/90 mmHg to 100 mmHg or less) in the treatment of people with hypertension and a history of cardiovascular disease (myocardial infarction, angina, stroke, peripheral vascular occlusive disease). This is the third update of this study since 2017.

Methods:

The authors included randomized controlled trials (RCTs) with more than 50 participants per group that provided at least six months' follow-up. Participants were adults with documented hypertension receiving treatment for hypertension with a cardiovascular history for myocardial infarction, stroke, chronic peripheral vascular occlusive disease, or angina pectoris. The study

included seven RCTs that involved 9595 participants. Mean follow-up was 3.7 years (range 1.0 to 4.7 years).

Results:

- There was little to no difference in total mortality (moderate-certainty evidence) or cardiovascular mortality (moderate-certainty evidence).
- There was little to no difference in serious adverse events (low-certainty evidence) or total cardiovascular events (including myocardial infarction, stroke, sudden death, hospitalization, or death from congestive heart failure (low-certainty evidence).
- The study suggests more participants withdrew due to adverse effects in the lower target group.
- Systolic and diastolic blood pressure readings were lower in the lower target group: systolic: mean difference -8.77 mmHg, and diastolic mean difference -4.50 mmHg.
- More drugs were needed in the lower target group. A mean of 2.4 drugs for the lower target group vs a mean of 1.9 drugs for the standard target group
- Blood pressure targets at one year were achieved more frequently in the standard target group (75%) vs lower target group (64%).

| Outcomes | Risk with Standard BP Target | Risk with Lower BP Target |
|--|------------------------------|---------------------------|
| Total Mortality | 68 per 1000 | 71 per 1000 |
| Total Serious Adverse Events | 252 per 1000 | 255 per 1000 |
| Total Cardiovascular Events | 127 per 1000 | 113 per 1000 |
| Cardiovascular Mortality | 31 per 1000 | 32 per 1000 |
| Participant Withdrawals due to Adverse Effects | 7 per 1000 | 60 per 1000 |

(Adapted from the Cochrane Database of Systematic Reviews 2022, issue 11)



- At present, evidence is insufficient to justify lower blood pressure targets (135/85 mmHg or less) in people with hypertension and established cardiovascular disease. Several trials are still ongoing, which may provide an important input to this topic.
- The question that remains is whether the mean differences in blood pressures in the two groups are large enough to create significant changes in relevant outcomes.

Sexually Transmitted Diseases (STD) Update

In December 2022, I attended the University of California-San Francisco conference on Controversies in Women’s Health. It’s an annual conference held the second week in December each year. I recommend it highly. Here are pearls from two of the talks on sexually transmitted diseases.

Monkeypox= Mpox

- Mpox was first described in 1958 when two outbreaks occurred in monkeys used in research. The terminology was recently changed to the less pejorative “Mpox.” Monkeys are rarely a carrier of this disease.
- As of mid-December 2022, 30,000 cases were confirmed in the United States. 70% of cases reported recent male to male sexual contact (down from >90%). Over 700 cases were described in cisgender women.
- Symptoms: 95% of patients had skin lesions, most commonly in the anal and genital regions. Lesions ranged from flat macules to blisters to crusts. Most patients had fewer than 10 lesions. Five percent of patients had oral lesions. Common systemic features included fever (62%), lethargy (41%), muscle aches (31%) and enlarged lymph nodes (56%).
- The Jynneos vaccine is approved for both smallpox and Mpox. It is a live, nonreplicating vaccine given as a series of two doses, 28 days apart. It can be given post exposure within 14 days and also, pre-exposure. It is licensed for the subcutaneous route but has been administered intradermally to adults during the recent outbreak to stretch the supply (1/5 of the sub-q dose). One study showed 85% efficacy in Mpox. Cases have slowed worldwide especially in US/UK/Europe due to the vaccine and behavior change.

Genital Herpes

- A significant proportion of genital herpes is now caused by HSV-1.
- If lesions present, swab for HSV1/2 PCR. Do not do serology.
- Do not screen general populations without HSV symptoms or contacts.

Trichomonas Treatment

- Single dose of metronidazole is not as effective as 7 days (81% vs 89% cure rate) in HIV negative women. Kissinger, 2018 Lancet Infect Dis
- CDC STI 2021 Guidelines:
 - # HIV+/ HIV- women with vaginal trichomoniasis: metronidazole 500mg BID orally x 7days; retest for reinfection in 3 months.
 - # Men with trichomoniasis or male partners: Metronidazole 2gm orally single dose; retest for re- infection in 3 months.
 - Metronidazole and Alcohol
- Metronidazole does not inhibit acetaldehyde dehydrogenase.
- Evidence reviews: no in vitro or clinical studies, no animal models, and no adverse event reporting.
- Refraining from ETOH is unnecessary during treatment with metronidazole. 2021 CDC STI Treatment Guidelines

Uncomplicated Gonorrhea Treatment Guidelines (CDC 2020 MMWR)

- Ceftriaxone 500mg IM X1 for persons weighing <150kg; for those weighing >150kg, 1g of ceftriaxone IM
- If chlamydia has not been excluded, treat for chlamydia with doxycycline 100 mg PO BID X 7 days
- No longer recommending dual therapy with azithromycin.
- Test of cure for pharyngeal gonorrhea at 14 days.

- New alternative gonorrhea treatment for uncomplicated infections of the cervix, urethra, and rectum if ceftriaxone is not available: Cefixime 800 mg po x 1.
- Cephalosporin allergy: gentamicin 240 mg IM + azithromycin 2 g po.

Mycoplasma Genitalium

- AKA: MGen, MG, M. gent
- Intracellular bacteria
- Causes symptomatic and asymptomatic urethritis in men and is the etiology of approximately 15%-20% of non-gonococcal urethritis (NGU), 20%-25% non-chlamydial NGU and 40% of persistent or recurrent urethritis.
- Can cause cervicitis, PID, infertility, prostatitis and epididymitis.
- Test:
 - # People with symptoms or signs that might be caused by MG and failed initial treatment.
 - # Persistent urethritis
 - # Cervicitis, consider in the management of PID
 - # Do not screen asymptomatic individuals unless they have had sexual contact with someone with documented MG.
- Treatment of M. genitalium:
 - # Sequential treatment with doxycycline 100 mg BID x 7 days, and then moxifloxacin 400 mg q day times 7 days
 - # MG can be difficult to treat- If patient does not get better, retest.

Resources

- CDC STI Treatment Guidelines App in the Apple App Store or Google Play
- National STD Curriculum - Free CME: [National STD Curriculum \(uw.edu\)](http://NationalSTDCurriculum.uw.edu)
- Clinicians with Tough STD Question: STDCCN.org Response within 1-5 business days depending on urgency

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