Medical Xpress

Single tablet with four BP-lowering drugs found more effective than taking three drugs in separate pills

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A single-pill combination of four BP-lowering medications was significantly more effective than a combination of three medications,

according to late-breaking research presented in a Hot Line session August 31 at ESC Congress 2024.

Explaining why new treatment strategies are needed for hypertension, Principal Investigator, Professor Stefano Taddei from the University of Pisa, Italy, said, "Patients with resistant hypertension on three BP medications, namely a diuretic, a renin-angiotensin system inhibitor and a calcium channel blocker, require the addition of a fourth medication. However, adherence decreases with the number of pills prescribed.

"In the QUADRO trial, we investigated adding bisoprolol, as part of a single-pill combination of four different BP-lowering medications, and found this was more effective than receiving three BP-lowering medications."

In the double-blind randomized controlled QUADRO trial, patients with resistant hypertension initially entered an 8-week run-in period where they received the triple combination of perindopril, indapamide and amlodipine at optimal doses (either 10/2.5/5 mg or 10/2.5/10 mg daily, if tolerated).

Those who still had uncontrolled BP after eight weeks (office systolic BP ≥140 mmHg and 24-hour ambulatory systolic BP ≥130 mmHg), while being adherent to the therapy, were randomized 1:1 to either continue the same triple therapy or to receive a single-pill combination containing perindopril, indapamide, amlodipine and bisoprolol (at either 10/2.5/5/5 mg or 10/2.5/10/5 mg daily) for eight weeks.

To preserve the blinding, patients in the two groups received the same number of pills every day: two capsules and one tablet. The primary endpoint was the change in office systolic BP. Secondary endpoints included 24-hour ambulatory BP monitoring, office diastolic BP, home BP and BP control.

In total, 183 patients were randomized from 49 centers in 13 countries. The mean age was 57 years and 47% were female. Mean office BP at baseline was 150.3 mmHg for systolic BP and 90.0 mmHg for diastolic BP.

After eight weeks, mean office sitting systolic BP had reduced by 20.67 mmHg (standard deviation [SD] 15.37) in the quadruple single-pill group and reduced by 11.32 mmHg (SD 14.77) in the triple group. The adjusted difference between the groups was significant in favor of the quadruple single pill (−8.04 mmHg; 95% confidence interval [CI] −11.99 to −4.09; p

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