

Effect of antihypertensive treatment at different blood pressure levels in patients with diabetes mellitus: systematic review and meta-analyses

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RIASSUNTO

OBJECTIVE: To assess the effect of antihypertensive treatment on mortality and cardiovascular morbidity in people with diabetes mellitus, at different blood pressure levels.

DESIGN: Systematic review and meta-analyses of randomised controlled trials.

DATA SOURCES: CENTRAL, Medline, Embase, and BIOSIS were searched using highly sensitive search strategies. When data required according to the protocol were missing but trials were potentially eligible, we contacted researchers, pharmaceutical companies, and authorities.

ELIGIBILITY CRITERIA: Randomised controlled trials including 100 or more people with diabetes mellitus, treated for 12 months or more, comparing any antihypertensive agent against placebo, two agents against one, or different blood pressure targets.

RESULTS: 49 trials, including 73 738 participants, were included in the meta-analyses. Most of the participants had type 2 diabetes. If baseline systolic blood pressure was greater than 150 mm Hg, antihypertensive treatment reduced the risk of all cause mortality (relative risk 0.89, 95% confidence interval 0.80 to 0.99), cardiovascular mortality (0.75, 0.57 to 0.99), myocardial infarction (0.74, 0.63 to 0.87), stroke (0.77, 0.65 to 0.91), and end stage renal disease (0.82, 0.71 to 0.94). If baseline systolic blood pressure was 140-150 mm Hg, additional treatment reduced the risk of all cause mortality (0.87, 0.78 to 0.98), myocardial infarction (0.84, 0.76 to 0.93), and heart failure (0.80, 0.66 to 0.97). If baseline systolic blood pressure was less than 140 mm Hg, however, further treatment increased the risk of cardiovascular mortality (1.15, 1.00 to 1.32), with a tendency towards an increased risk of all cause mortality (1.05, 0.95 to 1.16). Metaregression analyses showed a worse treatment effect with lower baseline systolic blood pressures for cardiovascular mortality (1.15, 1.03 to 1.29 for each 10 mm Hg lower systolic blood pressure) and myocardial infarction (1.12, 1.03 to 1.22 for each 10 mm Hg lower systolic blood pressure). Patterns were similar for attained systolic blood pressure.

CONCLUSIONS: Antihypertensive treatment reduces the risk of mortality and cardiovascular morbidity in people with diabetes mellitus and a systolic blood pressure more than 140 mm Hg. If systolic blood pressure is less than 140 mm Hg, however, further treatment is associated with an increased risk of cardiovascular death, with no observed benefit.

COMMENTO

In quest'articolo Brunström and Carlberg hanno valutato l'appropriatezza di un target pressorio in pazienti ipertesi con diabete di tipo 2. La loro meta-analisi ha individuato un beneficio nel trattamento dell'ipertensione, ma i dati hanno mostrato delle evidenze di rischio quando il trattamento è partito da valori di pressione sistolica basale inferiori a 140 mmHg. Queste evidenze sono in contrasto con una metanalisi precedente, che aveva individuato benefici derivanti dal trattamento sotto 140 mmHg (Ettehad D et al. 2015). Tuttavia altri studi hanno mostrato riduzioni più evidenti del rischio relativo di mortalità, eventi cardiovascolari, eventi coronarici, scompenso cardiaco nei soggetti con pressione arteriosa basale >140 mmHg rispetto a quelli con pressione basale <140 mmHg (Emdin et al. 2015), mentre raggiungere valori di pressione sistolica <130 mmHg non si associa a riduzioni del rischio relativo di mortalità, eventi cardiovascolari, etc. Anche per il target di pressione diastolica non ci sono evidenze che supportino, al momento, valori <80 mmHg. Questa ulteriore meta-analisi conferma quindi che in pazienti con diabete e una pressione sistolica >140/90 mmHg il trattamento è indicato, mentre non lo è per valori inferiori.

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