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EDITORIALS

Antihypertensives in octogenarians

Treatment has lasting benefits

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The Hypertension in the Very Elderly Trial (HYVET) is one of the most important trials in the history of antihypertensive treatment. It showed that the use of antihypertensive drugs to reduce high blood pressure in patients aged 80 years or more was associated with a significant and marked reduction in the incidence of stroke and heart failure. It also found that treatment reduces all cause mortality, which means that cardiovascular protection translates into increased life expectancy.[1] Given the steep increase in the number of people living beyond their 80s, these findings have important implications for public health.

In an open label treatment extension of the original HYVET study, Beckett and colleagues (doi:10.1136/bmj.d7541) follow the participants for one more year, during which time treatment was extended to participants who were previously taking placebo.[2] These people subsequently reached similar blood pressure values to those who received active treatment from the start (140-145 mm Hg, systolic). The authors found that despite the reduction in blood pressure, all cause mortality and cardiovascular mortality remained significantly lower in the group originally on active treatment (total mortality (47 deaths): hazard ratio 0.48 (95% confidence interval 0.26 to 0.87); cardiovascular mortality (11 deaths): 0.19 (0.05 to 0.87). The authors conclude that treating hypertensive octogenarians has a sustained benefit, that it is beneficial to start antihypertensives even at a late age, and that for hypertension "the earlier the better" therapeutic rule holds at all ages. They also conclude that screening for hypertension and implementation of treatment should probably have no age limit.

The results should be interpreted with caution, however, because—as the authors acknowledge—[2] the study has limitations. Firstly, the number of overall and cause specific events was small, with large confidence limits of the hazard ratios and limited statistical power to discriminate safely between-group differences. This makes it possible that chance played a role. Secondly, perhaps because of the play of chance, the data lacked internal consistency. For example, in the group originally under active treatment, death from cardiovascular disease remained strikingly lower than in the group given treatment at a later time, and so did the incidence of cardiovascular events. However, this was accompanied by a pronounced, although not significant, increase in stroke (hazard ratio 1.92)—an event that is strictly dependent on blood pressure and accounts for an important fraction of the overall number of fatal and non-fatal cardiovascular events in the very elderly population.[3 4] Thirdly, the group originally taking placebo needed active treatment for about six months (almost half of the entire follow-up period) to achieve blood pressure values similar to those of the group originally taking active treatment. During that time, the incidence of blood pressure related events—such as stroke, coronary heart disease, and heart failure[3 5]—may have been increased, making the difference from the early treatment group dependent not on earlier implementation of treatment but on persistence of inadequate blood pressure control in the group originally taking placebo.

These limitations do not stem from shortcomings in design or conduct of the study, which are remarkable achievements—for example, the involvement of more that 90% of the originally randomised patients in the extension phase. They stem from the fact that trials in very elderly patients present special difficulties, such as the necessary shorter duration of the observation period and the confounding role of intercurrent diseases. Despite the limitations, the extension phase of the HYVET trial reinforces the conclusion drawn from the earlier results that treatment of hypertensive octogenarians is beneficial and should be pursued. Indeed, because in patients initially randomised to antihypertensive drugs the rate of cardiovascular events decreased during the additional year of treatment (despite the increased age), the benefits may start soon after the initiation of treatment and increase as it continues. This also means that great attention should be given to maintaining blood pressure control in octogenarians. Given that adherence to antihypertensive treatment is low in real life,[6] and that adherence may be an even greater problem at a very old age, increasing adherence may be the most difficult task that practising doctors face.

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