

Council's Corner: Hypertension Issues - a personal view



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Device-based approaches for hypertension treatment – do we really need them?

Hypertension treatment is a classic domain of lifestyle interventions and pharmacotherapy. Achieving a normal body weight, adhering to a balanced diet, reducing salt intake, moderation of alcohol consumption and regular exercise are just some of the interventions for which overwhelming evidence exists to demonstrate their safety and effectiveness in lowering elevated blood pressure. These interventions are typically low cost and have many additional health benefits. All it really takes is some effort to get started and endurance to keep going. This does not sound hard, but ask a few middle-aged obese hypertensive patients with pre-diabetes who are trying to juggle their demanding job, children's activities and social commitments and answer their question: "Doctor, when should I do this?"

The advances in antihypertensive pharmacotherapy over the last few decades have been substantial and we are very fortunate to have a number of drug classes that are safe, effective, and generally well tolerated. In the era of evidence-based medicine a reduction in hard endpoints is an important criterion and again, several antihypertensive drugs classes tick that box. The introduction of single pill combinations helped to reduce the pill burden and represents another important development in antihypertensive pharmacotherapy. I do agree with many of my colleagues that in the vast majority of patients with hypertension we should be able to control blood pressure with a combination of both lifestyle modification and pharmacotherapy. Yet, reality is that non-adherence to both is very common, even more so over time, and that up to 50% of patients diagnosed with hypertension are not controlled and remain at elevated cardiovascular (CV) risk. While every effort should be taken by health professionals to advise patients on the benefits of these therapies, we also have to respect what I refer to as a "patient's choice", that is the unwillingness to modify their lifestyle and/or take antihypertensive or other drugs for that matter typically for the rest of their lives. In addition, there are patients who are intolerant of some antihypertensive drugs, cannot afford them all, or have difficulties accessing health services. For these patients we have to explore alternative therapies and device-based approaches may be part of the solution. Recent developments in this area are commonly based on sound pathophysiologic considerations and have provided promising and sometimes conflicting results in human studies. Baroreflex activation therapy, renal sympathetic nerve ablation, and central arteriovenous anastomosis are important milestones in this area, but much more research is required to prove long term safety and efficacy in lowering blood pressure and ultimately in reducing CV events. Identification of the ideal candidate for any of these

approaches is another challenge. As with most therapeutic interventions, one size does not fit all and we have to learn a great deal about each of these device-based approaches. While I am convinced that lifestyle modification and pharmacotherapy will remain the standard of antihypertensive therapy, I do believe that we are entering a new era that is driven by our understanding of pathophysiologic principles and advances in biomedical technology.

Let us keep an open mind and embrace the technical progress while building on well established and solid foundations.

- Markus Schlaich

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