Hypertension

Over the years, we have repeatedly heard that even slightly elevated blood pressure increases the risk of a stroke. Estimates purport that elevated blood pressure accounts for 54% of all strokes and 47% of all ischemic heart diseases. Issue 43 "Hypertension" published by the Robert Koch Institute (RKI) reported in 2008 that half of all heart diseases can be attributed to suboptimal blood pressure values and people with hypertension bear 3 times the risk of suffering from a heart attack and 6 times the risk of suffering from renal insufficiencies.
Nowadays, hypertension experts praise study results reporting a reduction in coronary hearth diseases by 25% to 38% in their speeches – however, in this case for the scenario that the target blood pressure level is lowered far beyond today's limits.

What is this all about?

It's about the relationship between blood pressure and organ damage to vessels, heart and kidneys. The guidelines for the management of arterial hypertension (ESC Pocket Guidelines 2013) read: "Conventional standard blood pressure measurement establishes an independent and continuous correlation with the incidence of cardiovascular incidents, including stroke, myocardial infarction, sudden cardiac death, heart failure and peripheral artery occlusive disease as well as terminal renal insufficiency. This correlation between blood pressure and end organ damage ranges from high levels to relatively low values of 110-115 mmHg (systolic) and 70-75 mmHg (diastolic) in the baseline evaluation of individuals without vascular diseases."

This means, the listed diseases occur in all people, regardless of the blood pressure levels measured at the doctor's office. However, an accumulation of these diseases is observed at higher blood pressure levels. They are lowest at blood pressure levels of 110-115/70-75 mmHg. The assumption is that with a blood pressure reduction close to these levels, the number of illnesses does not fully disappear, but it decreases. Almost three generations have worked on this issue so far.

In further considerations, we intend to restrict ourselves to the three most widespread diseases for which hypertension takes the blame, namely strokes, heart attacks and renal insufficiency, as the data situation regarding these illnesses is most comprehensible to us, considering our background. At the same time, we intend to restrict ourselves to patients in primary prevention. For this group, which accounts for 90 to 95% of all hypertensives, the cause of the hypertension is unknown and usually attributed to genetic predisposition or an unhealthy lifestyle. The mentioned correlation between blood pressure and end organ damage will be addressed in more detail later.

The limits

We are still familiar with the formula "age + 100" as the upper limit for systolic blood pressure. In the last three decades, it was first lowered to 160/95, then to 140/90 worldwide, and thus the correlation with age was removed. At times, the recommendation was made that blood pressure be set to 120/80 mmHg, which is called the optimal value. In 2008, a Cochrane analysis was published, which proved that by further lowering the blood pressure below 160-140 systolic and 90-100 diastolic, a decrease in the risk of coronary diseases is not provable.

The global alliance of 140/90 upper limit supporters broke apart with this meta-analysis. It challenged the basic assumption that the closer the blood pressure is to 110-115/70-75 mmHg, the fewer diseases occur. Some countries, including the US and New Zealand, then raised the limit again to 160/100, since pursuant to the new studies, further lowering would only have side effects, but no benefits.

Germany did not follow suit, but instead maintained 140/90 as the upper limit. The commission got blamed for a “meaningless treatment” of people in TV (SWR-odysso) but this showed no effect. In the

USA, the SPRINT study was placed at the end of 2010, which was to prove that a further reduction of the diseases is also detectable if blood pressure is reduced to below 140/90 mmHg. We will address this study at a later time.

The latest news on this topic once again originated in the United States in 2017, where 30 million people became hypertensives overnight, simply because the guideline committee lowered blood pressure limits to 130/80 mmHg. In Germany, the upper limit was still 140/90 mmHg, but physicians are encouraged to go down to 130/80 mmHg if the patients are able to tolerate the drug doses. The "European Hypertension Guideline 2018" is the currently applicable legal framework. We will revisit this topic at a later time.

The Guidelines

Guidelines are always recommendations only - they do not establish an obligation for our doctors to follow them to the letter. However, they cannot defy the requirements contained therein, as in case of a dispute between doctor and patient, the experts, who are to assess a proper treatment, usually come from these very committees or surrounding sectors.

These committees also determine the teaching contents at the universities and act as experts for all types of publications. The most widely known is the “High Pressure League” (Deutsche Hochdruckliga, DHL), which was founded in 1974 as a nonprofit medical society. It actively works on the guidelines and trains Hypertensiologists DHL® and sent out leaflets with the slogan "Blood pressure medication for a lifetime, for a long life". “This society is supported by numerous pharmaceutical companies that produce antihypertensives. Both the chairman and all members of the Drug Commission have received grants from companies for lectures, consultations or research into third party funding” end of the quote from SWR-odysso (translated).

Success stories in hypertension treatment

Despite all the activities in the past 30 years, a patient will search in vain for credible reports about actual progress in fighting the "silent killer".
The RKI (GBE kompakt 4/2015) has good news to impart: "The blood pressure of adults in Germany dropped significantly between 1997-1999 and 2008-2011. The positive development is more pronounced in women than in men."
However, the statistics are alarming. The statutory health insurance carriers (GKV) publish the following statistics – prepared by the RKI for the Federal Ministry of Health – on an annual basis:

Source: Arzneimittel-Atlas[1)]	**2005**	**2017**	**Change (%)**
Hypertensives in million (% of the population)	16,1 (19,5 %)	24,1 (29 %)	**+50 %**
Antihypertensives (Billion daily dosages)	6,45	15,5	**+140 %**
“GBE-Bund” diagnoses (count)[2)]			
Number of strokes	340.825	370.944	**+9 %**
Number of heart attacks	206.194	217.738	**+6 %**
Number of renal insufficiencies	60.623	117.849	**+94 %**

[1)]https://www.arzneimittel-atlas.de. [2)]www.gbe-bund.de

This sends us patients into a tailspin:

- The blood pressure has been verifiably lowered by 2011 and probably continued to fall until 2017. So far, we have not been able to find statistics for this.
- In 2017, 50% more patients are treated for hypertension than in 2005.
- In 2005, patients took about 1 tablet (DDD4) per day, 1.7 in 2017.
- Due to stroke, myocardial infarction or renal insufficiency, 16% more people were hospitalized in 2017 than in 2005.

- The increase in renal insufficiency (+ 94%) is of importance. In the SPRINT study intensive lowering of blood pressure lead to an increase of renal insufficiencies from 36 to 96 cases. A detailed analysis seems to be not yet published.
- The efficiency of the treatment is decreasing considerably. In 2005, 26.5 patients were treated for one of the diseases. In 2017, 34 patients per disease were treated.

Conclusion drawn from the results

The benefits of broadly administering antihypertensives to 30% of the population as a preventive treatment to combat our key illnesses are not verifiable. The committees of the Federal Ministry of Health are well aware of this fact, but they make reference to the status of the studies, which clearly showed that the lower the blood pressure, the fewer cardiovascular diseases. The opinion prevailed that doctors fail to prescribe medication with sufficient consistency and patients fail to take these in the necessary quantities and the regularity required. However, the increase in hypertensives and the even more dramatic increase in drug use tell another story.

Side effects of the treatment

Should the effectiveness of a treatment not be verifiable, patients at least should not be harmed by such treatment. However, our findings are anything but reassuring.
Doctors on TV talk about side effects such as gastritis and even coughs, which are found in about 20% of the patients with prescriptions of ACE inhibitors. Package inserts mention them in the range 1-10 in 100. There is talk about swollen feet caused by calcium antagonists. The “Arznei-Telegramm” (medical newsletter) even says "Due to a possible increase in cardiovascular morbidity and mortality we currently see no indication for calcium antagonists in case of hypertension". According to Arzneimittelatlas, 16% of the prescribed antihypertensive agents were calcium antagonists in 2017.

Beta-blockers, which according to studies are drugs that "verifiably provide protection against diseases that are triggered by hypertension and against premature mortality" (Arznei-Telegramm) cause shortness of breath when exercising, as they restrict the pulse rate, and they cause potency problems. However, there are reports about studies that show that the potency problems tend to decrease with taking beta-blockers. In television broadcasts, these problems are shown to be inevitable when taking beta-blockers, with hypertension itself sharing the blame. In these situations that are critical for patients, for that which must not be, cannot be, support groups step in with lists of medications where potency problems[7)] have been reported.

[7)]Cornelia Stolze Krank durch Medikamente PiperISBN978-3-492-05664-9 S.88

The effectiveness of drugs

A press release from the University of Freiburg in 2016 is quite a bombshell for patients: "**About half of all hypertensive patients are unable to lower their blood pressure sufficiently, despite drug therapy. The permanent strain on their bodies causes other diseases.**" This would mean that the hypertension treatment harms rather than benefits 12 million patients. Anyone who read the publications of major blood pressure studies from top to bottom, where side effects are mentioned, is aware that this is not plucked out of the air. We will address this topic when we take a closer look at the studies.

What are the future prospects for the patients?

While ostensibly, the European Hypertension Guideline 2018 does not join in the general lowering of the limits to 130/80 mmHg as is the case in the US, but maintains 140/90 mmHg, it does encourage physicians to further reduce the systolic value to 130 mmHg (if the patient is able to tolerate the drugs) and to 120-129 mmHg for patients under 65 years of age.

Such values can also be achieved by administering multiple medications from the beginning of the treatment. While so far, it was recommended to first start with one drug for the treatment of new hypertensives, in future, two drugs may be administered from the very beginning of the treatment. For older patients, systolic values of 160 mmHg are considered tolerable, in contrast to the former status quo.

Half of the patients who cannot adequately lower their blood pressure with drugs are likely to receive prescriptions for higher doses and multiple combinations of medications.

The Risk

The diagnoses for all patients admitted to hospitals are reported to the German Federal Statistical Office once the treatment is completed. In statistics, this is known as a full census because it captures the overall picture of the diseases in the whole population. The following table shows the figures for the year 2017, converted into cases per 10,000 inhabitants:

Germany Year 2017	**Per 10.000 inhabitants**
All diseases	**2.410**
All circulatory diseases	**353**
Strokes	**45**
Heart attacks	**26**
Renal insufficiencies	**14**
Number of hypertensives	**2.911**

If we were to describe a risk for a disease using figures, this figure must not be greater than the number of diseases that actually occurred. Thus, our initial quote "Estimates purport that increased blood pressure is responsible for 54% of all strokes" is of paramount importance. Of 45 strokes per 10,000 inhabitants in 2017, 24 (i.e. 54%) are associated with high blood pressure, 21 (46%) with low blood pressure. The stroke prevention potential only covers 3 patients per 10,000 inhabitants. For this purpose, 2,911 people per 10,000 inhabitants are exposed to restrictions and side effects of antihypertensives for the rest of their lives.

Resistance is on the rise

So far, we have only taken a closer look at hypertension. For type 2 diabetes, scientific societies report "epidemic increases". The term "silent killer" is overused by media, and so is the lowering of the limits. The daunting influence of type 2 diabetes mainly targets obese people, who are driven into the yo-yo effect of the "weight loss industry".

Some doctors seem to have recognized that there is something wrong with patient education: Jana Jünger of the Institute for Medical and Pharmaceutical Examination Questions (IMPP) in Mainz and a doctor-patient communications expert is of the opinion that: "risk communication does not work well, many doctors know too little, patients learn too little, and there is plenty of interest-driven scaremongering ".
But something is happening. One example is the 1st Heidelberg symposium for physicians and laymen of February 7-8, 2019 that aims at once again focusing on people, as most studies are not reliable. It is more important to treat the human being than blood pressure.

Dr. med. Gunter Frank published a guide on how to ask your doctor the right questions, "Ask your doctor - but the right way" and a YouTube post "Strengthen patients, avoid over-therapy (German)".
In this context, the publications "The Century of the Patient: How to Deal with Risks and Side Effects" by Prof. Dr. med. Gerd Gigerenzer and others as well as "Reflections on the Risk-Competent Citizen" by Nicolai Bodemer are worthy of note.

The result of a study by Dr. Barbara Starfield in the US was to persuade patients to a paradigm shift regarding the risk of medical treatment. She diagnosed about 250,000 deaths caused by medical treatment (iatrogenic disorders). Thus, iatrogenic disorders were placed third in the list of causes of death. 106,000 deaths from unexpected side effects of prescribed drugs are at the head of the list, followed by approximately 80,000 hospital infections. In contrast, errors due to incorrect treatment by doctors are rather minor with approximately 7,000 cases per 250,000 cases.

For a better understanding of iatrogenic disorders in medical checkups, the "White List" of the Bertelsmann Foundation in cooperation with health insurance and other insurance companies is a good example for men in prostate cancer screening and for women in mammography screening.