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INTRODUCTION AND AIMS

Hypertension is a major problem among the hemodialysis patients. It is estimated that it affects more than 80% of those patients. The antihypertensive treatment, especially in this group often requires a multidrug therapy and individual approach to the patient in order to achieve proper control of blood pressure before and after hemodialysis (HD).

The aim of the cross-sectional, observational study was to evaluate the prevalence, antihypertensive treatment and control of blood pressure according to JNC and K/DOQI recommendations in the group of hemodialysis patient in years 2006 and 2016.

METHODS

We analyzed a group of 145 patients hemodialysed in Diaverum Gdańsk Dialysis Unit in two distinct periods of time 2006 and 2016 (Table 1). The analysis of the antihypertensive treatment was based on the medical files and it consisted of a comparison of the mean results of blood pressure reported in the six consecutive HD sessions.

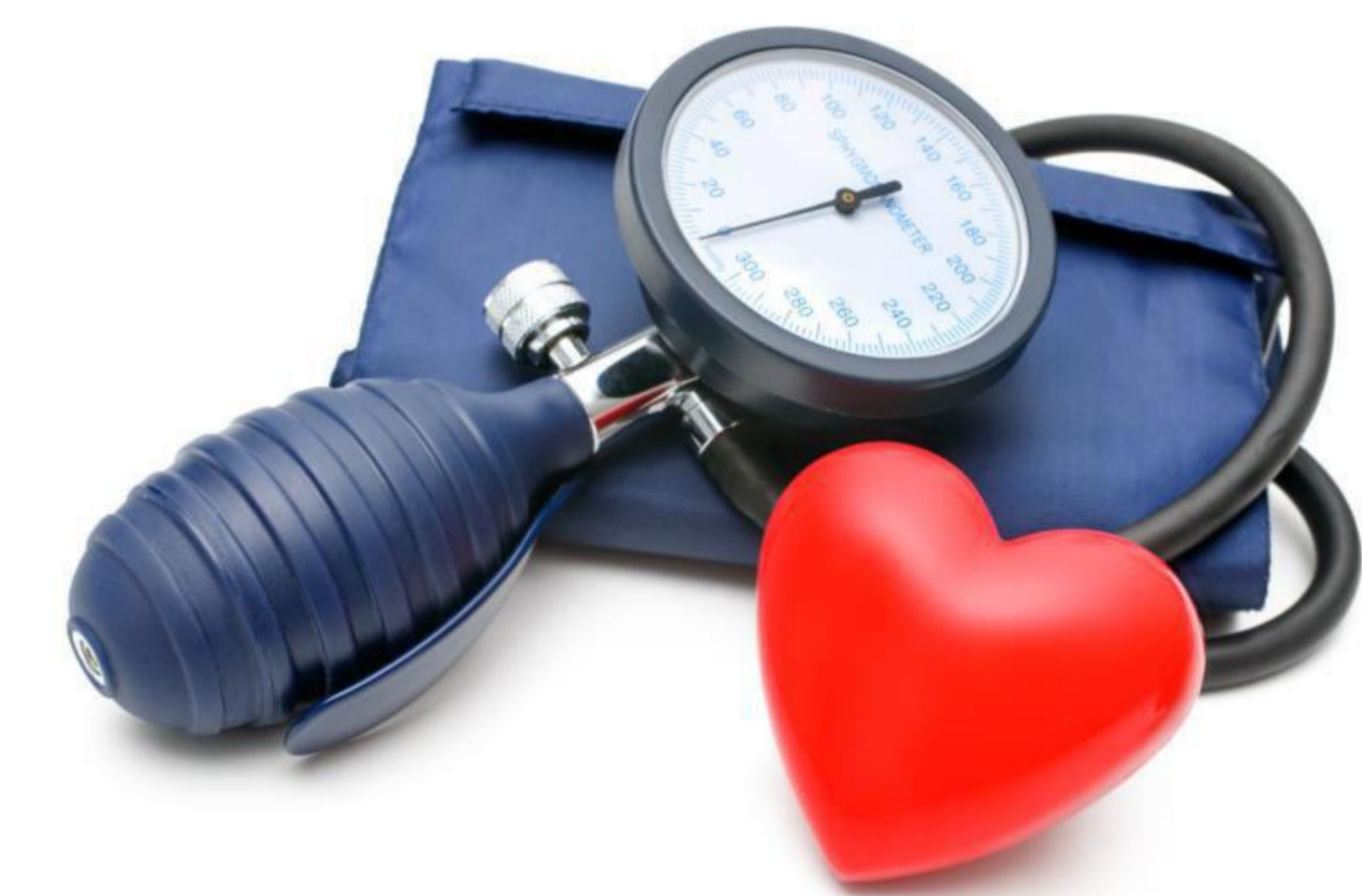
| | 2006 | 2016 | p |
|--|-----------|-----------|-------|
| Number of participants (n) | 59 | 86 | <0.05 |
| Man n(%) | 38 (64,4) | 50 (58,1) | <0.05 |
| Mean age (years) | 61,0 | 66,1 | ns |
| Hypertension (HA) n(%) | 55 (93,1) | 80 (93) | ns |
| Cardiovascular disease n(%) | 42 (71,2) | 57 (66,3) | <0.05 |
| Diabetes n(%) | 22 (37,3) | 29 (33,7) | ns |
| Duration of hypertension diagnosis (years) | 10,2 | 14,5 | <0.05 |
| Duration of dialysis treatment (months) | 25,2 | 44,7 | <0.05 |
| Blood pressure <140/80 before HD n(%) | 41 (69,5) | 44 (51,2) | ns |
| Blood pressure post HD <130/80 n(%) | 37 (67,2) | 24 (27,9) | <0.05 |

Table 1. Characteristic of the study population



| Hypertensive medication | 2006 | 2016 | p |
|-------------------------------|-----------|-----------|-------|
| β-blockers n(%) | 34 (61,8) | 58 (72,5) | <0,05 |
| Diuretics n(%) | 27 (49,1) | 54 (67,5) | <0,05 |
| Calcium channel blockers n(%) | 27 (49,1) | 45 (56,3) | <0,05 |
| ACE inhibitors n(%) | 22 (40) | 17 (21,3) | <0,05 |
| Sartans n(%) | 0 | 9 (11,3) | <0,05 |
| α-blockers n(%) | 7 (12,7) | 17 (21,3) | <0,05 |

Table 2. The groups of hypertensive drugs used in the study population



RESULTS

The groups 2006 and 2016 differed significantly in respect to duration of hemodialysis treatment, duration of hypertension treatment as well as the prevalence of cardiovascular disease (Table 1). The mean blood pressure before HD session was 133/77 and 140/76mmHg, after HD session was 123/73 and 139/77mmHg, in 2006 and 2016 respectively. The target of blood pressure control according to recommendations before HD was reached by 69,5% and 51,2% of participants and after HD by 67,2% and 27,9% (p<0,05) in 2006 and 2016, respectively. The pattern of anti-hypertensive therapy differed in two distinct periods of time. Percentage of patients using single, double, triple and multidrug therapy (4-6) were 23,6%, 18,2%, 28%, 12,5% and 12,8%, 18,7%, 29%, 23,3% in 2006 and 2016, respectively. The most often used drugs were beta-blockers, diuretics and calcium channel blockers (Table 2).

CONCLUSIONS

1. Target of blood pressure control according to recommendations was achieved more often in 2006 probable as a result of differences in group characteristic.
2. The pattern of anti-hypertensive therapy differed in two distinct periods of time and the percentage of patients using triple and multidrug therapy increased in 2016 in comparison to 2006.
3. β-blockers, diuretics and calcium channel blockers were the most common hypertensive drugs used in 2006 and 2016.