

HIGH CONVECTIVE VOLUME DECREASE CARDIOVASCULAR MONOCYTES IN ONLINE HEMODIAFILTRATION.

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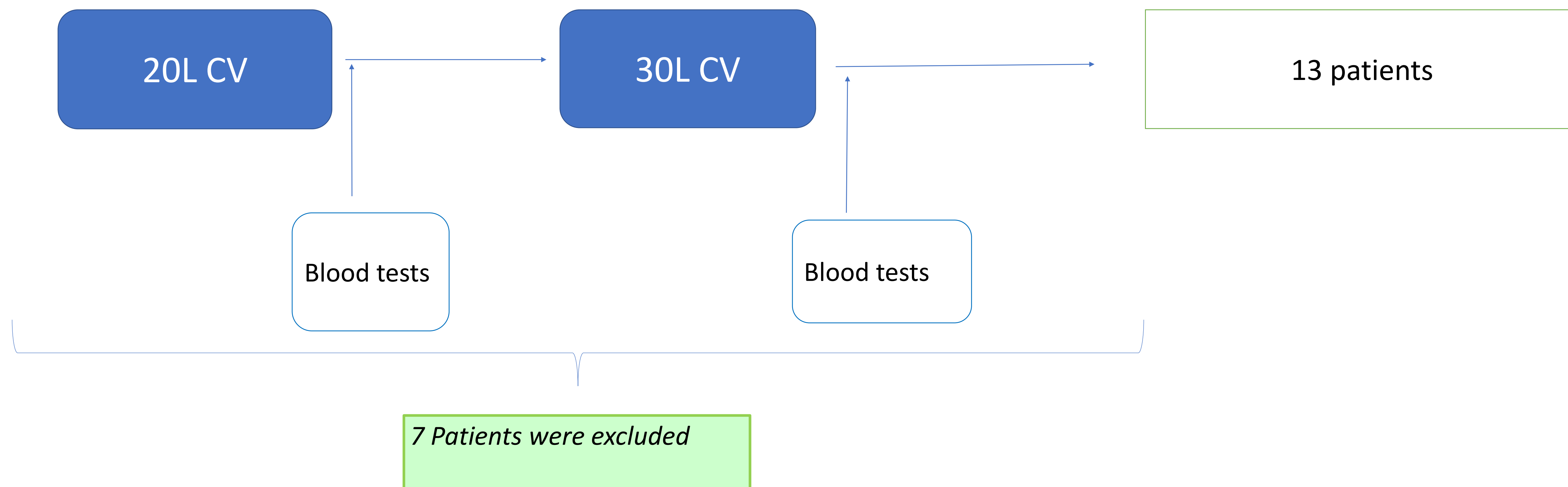
INTRODUCTION:

Patients with stage 5 chronic kidney disease have a high risk to develop cardiovascular events, inflammation state and mortality. Inflammation state is characterized by the accumulation of toxins that induce endothelial damage and cardiovascular disease. Online hemodiafiltration (OL-HDF) treatment has shown a reduction of cardiovascular risk and mortality. Differences between higher and lower convective volume over monocytes and their subpopulations related to cardiovascular development have not yet analyzed.

The objective of the study is to analyze if differences in convective volume influence cardiovascular profile in patients in hemodialysis.

MATERIAL AND METHODS:

This is a prospective study. We included 20 prevalent hemodialysis patients receiving OL-HDF treatment. Inclusion criteria were clinical stability (not hospital admission, not infections or tumoral pathology) during 3 months before start the study.



RESULTS:

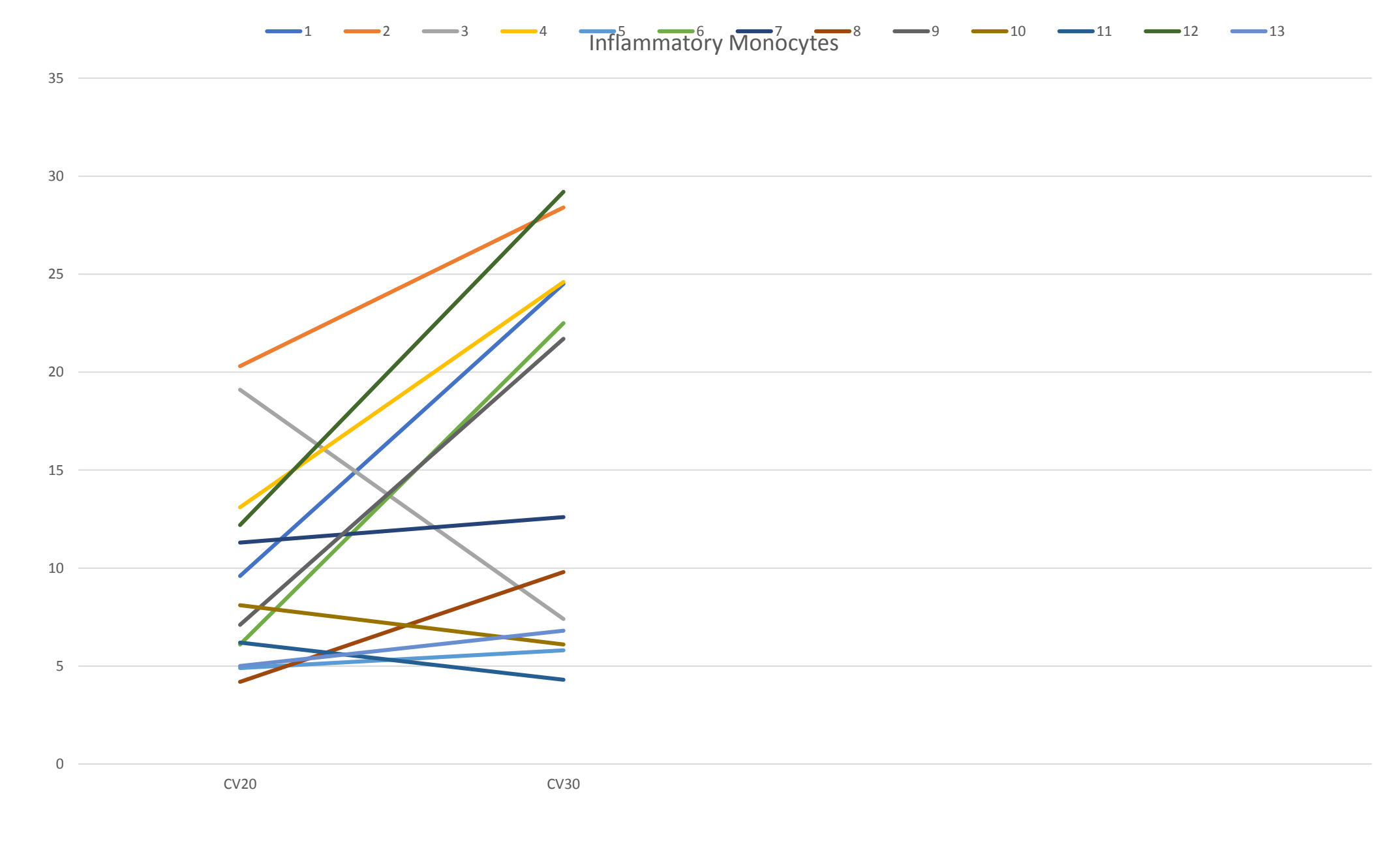
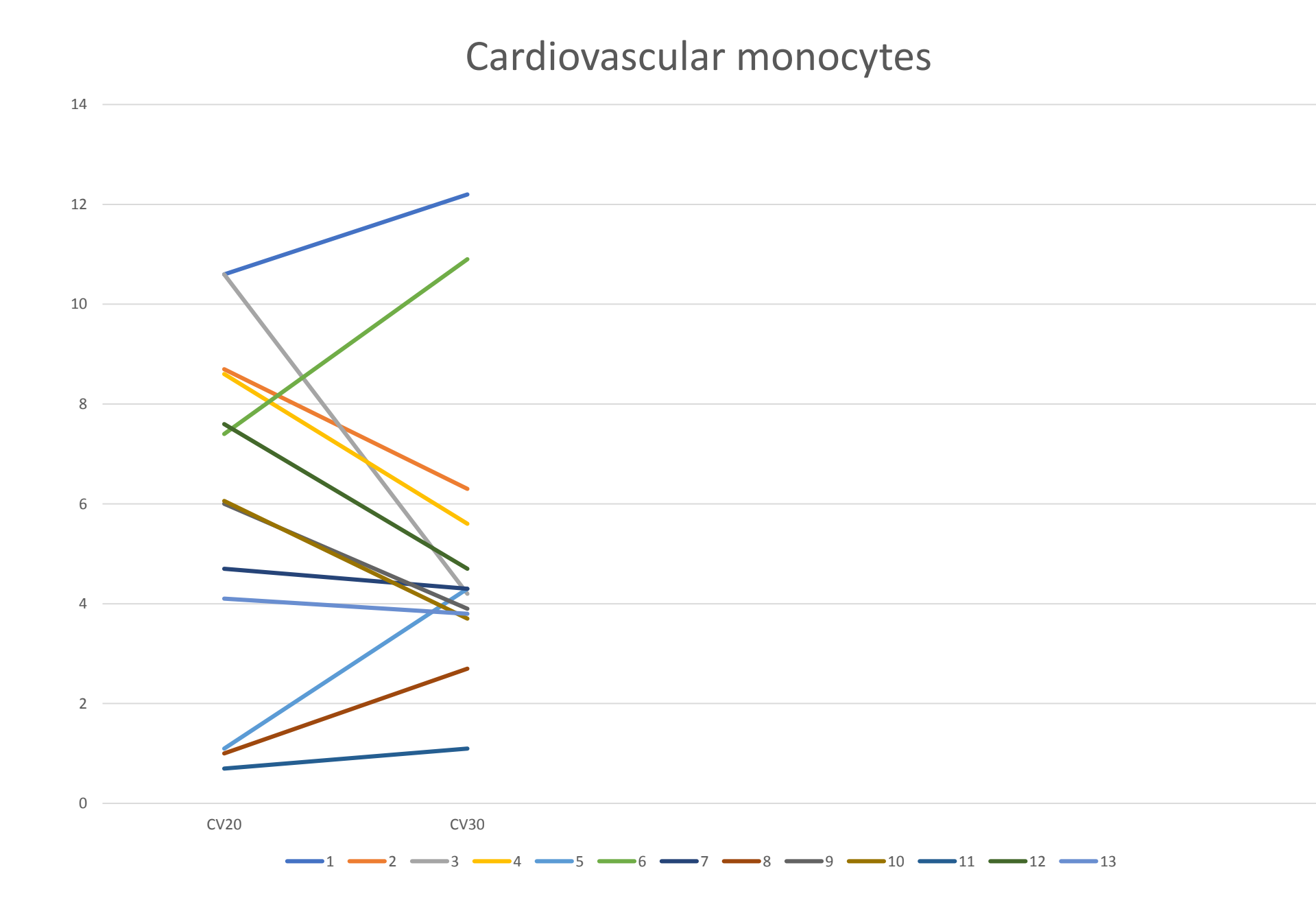
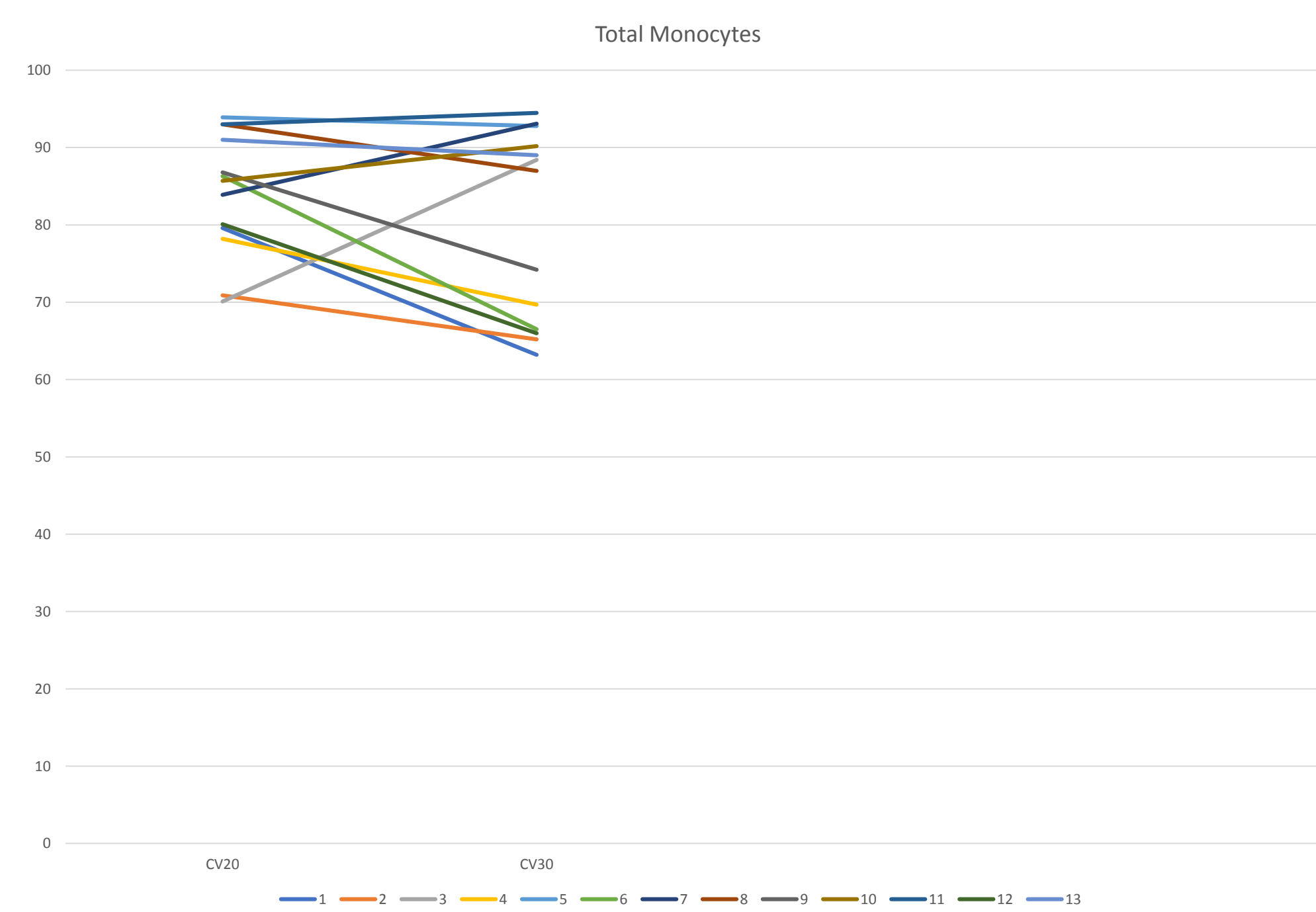
	N: 13
General characteristics:	
Sex (male, %)	77
Age (years)	58±15
Charlson index	7.2±2.7
Diabetes (%)	15
Hypertension (%)	100
Dialysis features	
Dialysis vintage (months)	60 (30-85)
Kt/V per session	1,9 ± 0,6
Ionic dialisance per session (mL)	314 ± 60
Convective transport (L)	31± 14
Vascular access flow (mL/min)	450 ± 51
Vascular access arterial pressure (mmHg)	-185± 33
Vascular access venous pressure (mmHg)	170± 29
Laboratory parameters	
Albumin (g/dL)	4.1±0.4
Nt-proBNP (ng/dL)	84 (37-181)
CRP (mg/dL)	0.3 (0.1-0.7)
Prealbumin (mg/dL)	32 (27-38)

Comparison of monocytes and endothelial microparticles with convective volume 20 liters (CV20) and convective volume 30 liters (CV30).

	CV20	CV30	P
Monocytes	84.8±5.2	79.2±11.9	0.30
Inflammation monocytes	9.8±3.2	15.7±8.5	0.033
Cardiovascular monocytes	6.1±28.8	5.2±3.0	0.023
Endothelial microparticles	177.0±7.9	212.9±52.5	0.033

Biochemical parameters and rate reduction with convective volume 20 liters (CV20) and convective volume 30 litres (CV30)

	CV20	CV30	P
Urea	92.4±25.0	96.2±28.1	0.55
Creatinine	8.0±2.4	8.5±3.0	0.14
Albumin	3.9±0.2	3.9±0.2	0.48
Phosphate	3.7±0.9	3.9±0.9	0.19
Hemoglobin	11.2±1.1	11.7±0.9	0.51
CRP	0.3(0.1-0.6)	0.2(0.1-0.5)	0.76
Beta2microglobulin	18.7±5.0	15.9±3.2	0.02
UreaRR (%)	85±6	84±4	0.85
PhosphorousRR(%)	52±20	60±12	0.03
Alpha2macroglobulinRR(%)	-23±12	-21±12	0.87
ProlactineRR(%)	60±14	71±14	0.001
Beta2microglobulinRR(%)	80±6	83±4	0.048
MyoglobinRR(%)	59±13	68±11	0.008



FOLLOW-UP:

During a 36 months of follow-up, 2 patients died and 4 patients received a kidney transplant. We did not find differences between monocytes and patients state.

Conclusion: High convective volumen in OL-HDF decrease cardiovascular monocytes. Dialysis vintage is related to high levels of cardiovascular monocytes.