

A SIMPLE AND CHEAP WAY TO IMPROVE DIALYSIS ADEQUACY

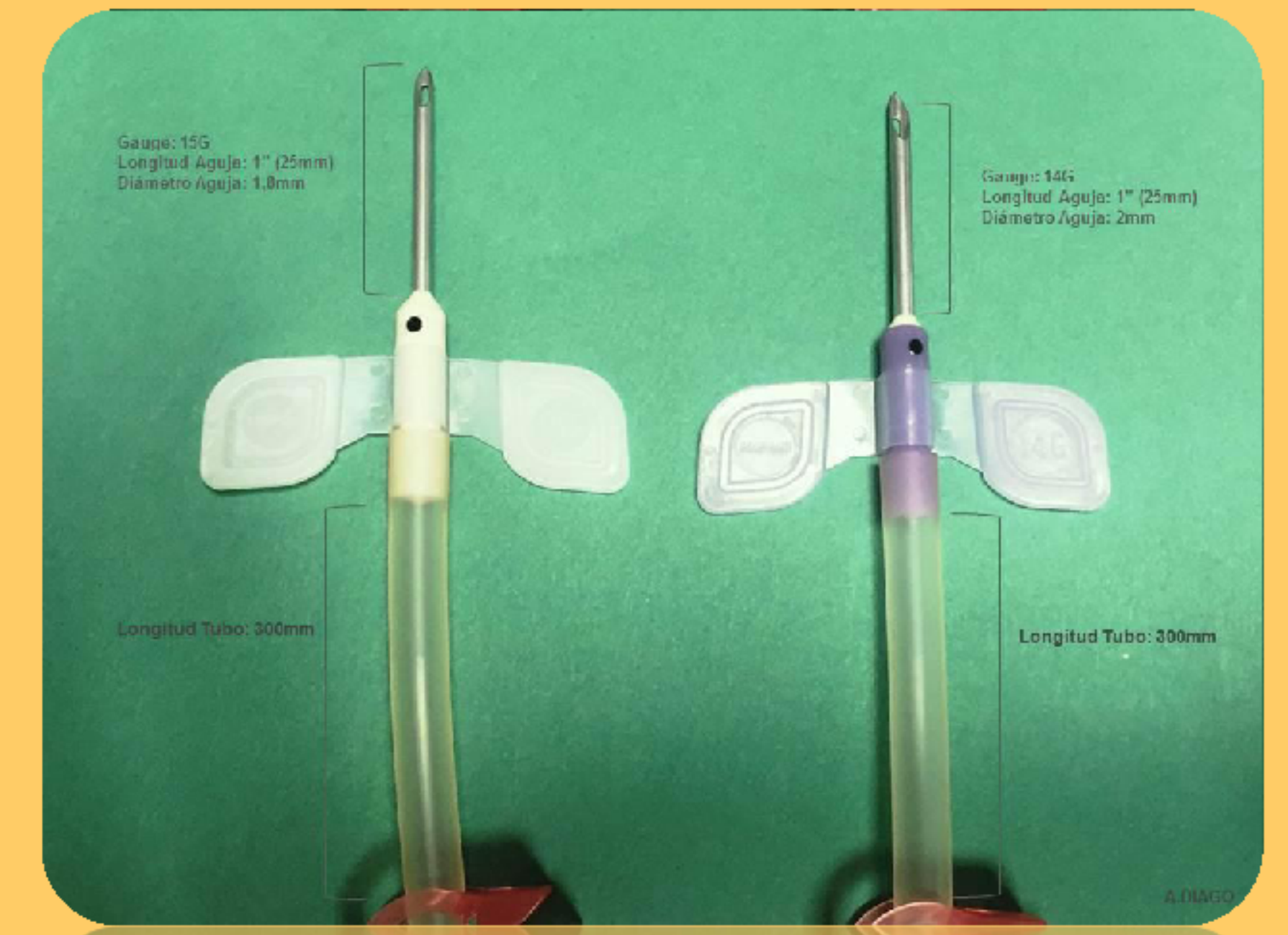
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Objectives:

To analyze the impact of using 14-gauge needles on:

- Blood flow (Qb) and vascular access dynamic pressures
- The dialysis dose
- Hemostasis time after removing the needles
- The vascular access survival

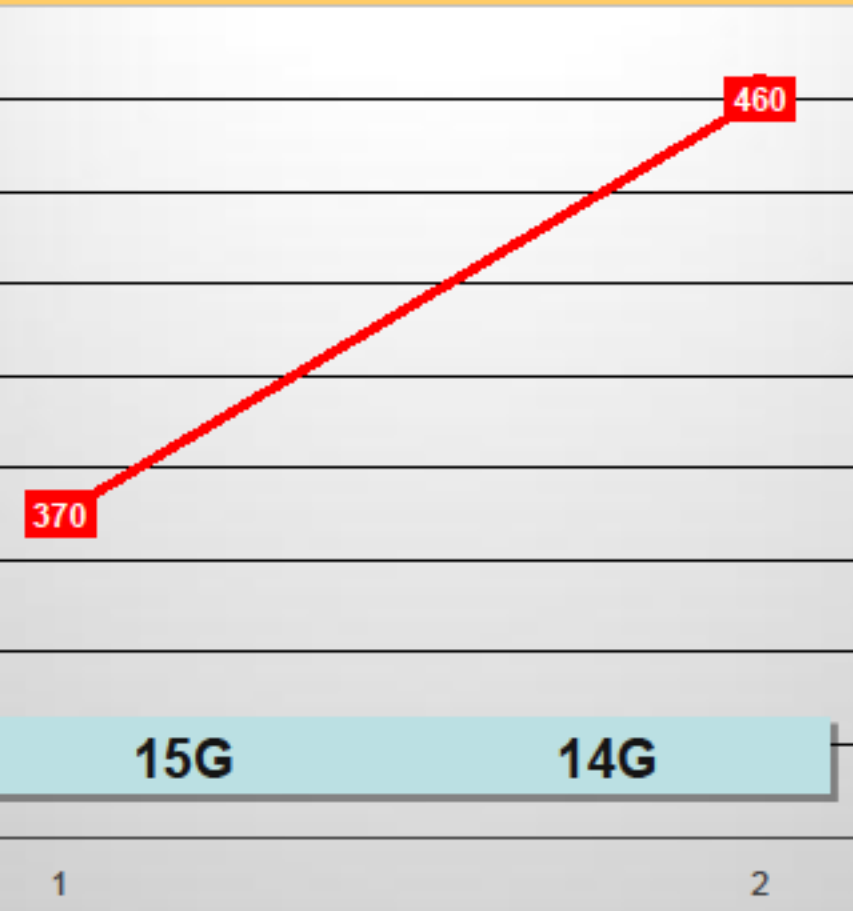


Methods:

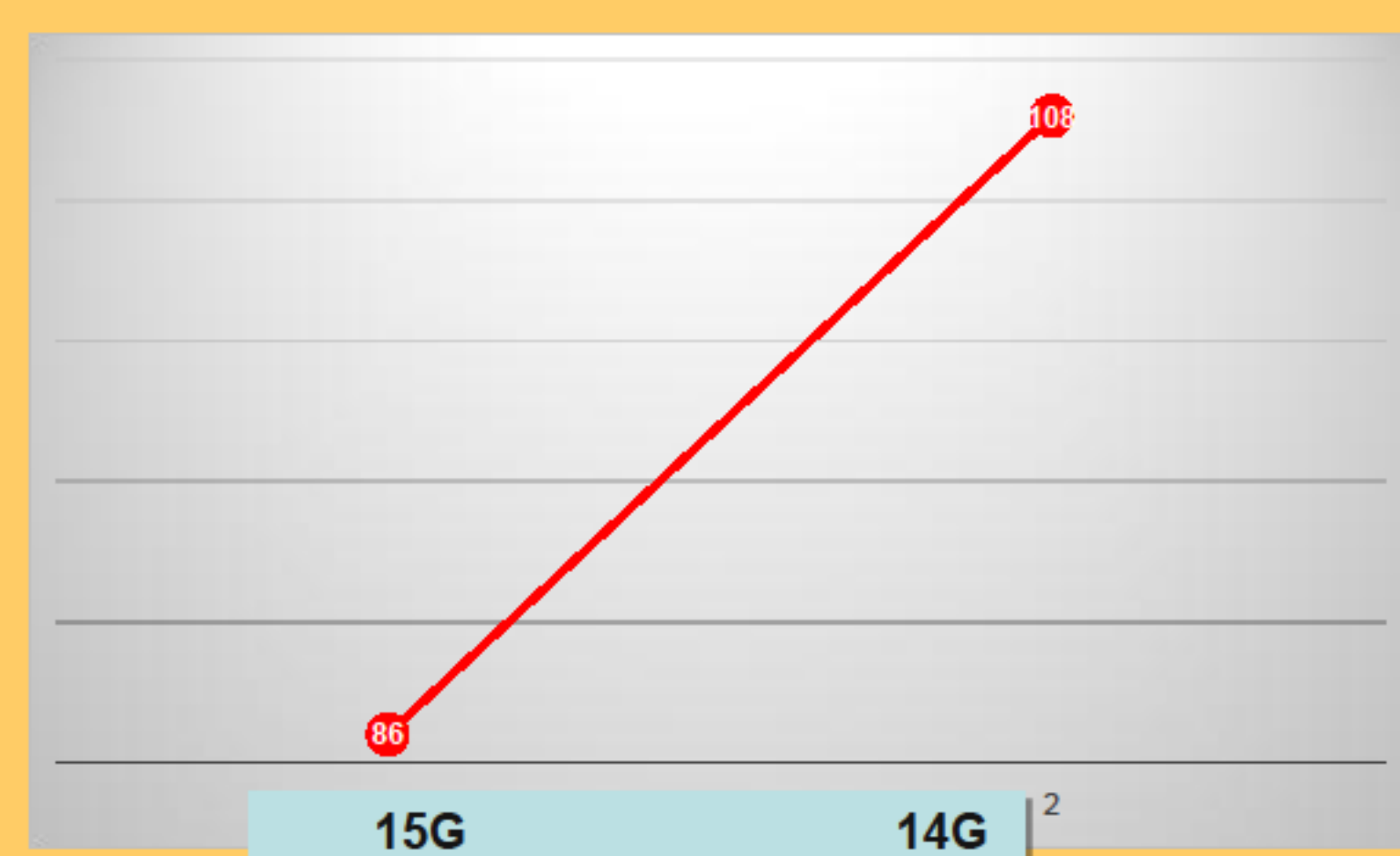
We included patients on high flux hemodialysis thrice weekly for at least three months through an arteriovenous fistulae or a graft in a single center. We conducted **36 dialysis sessions with 15-gauge needle size followed by 48 hemodialysis sessions with 14-gauge needle size in the same patients**. No changes has made in any other dialysis conditions such as dialysate flow rates, dialysis time, or distance between needle insertion sites. We recollected comorbidities, dialysis parameters such as blood flow rate, blood volume processed and dialysis dose measured by single pool KT/V.

Results:

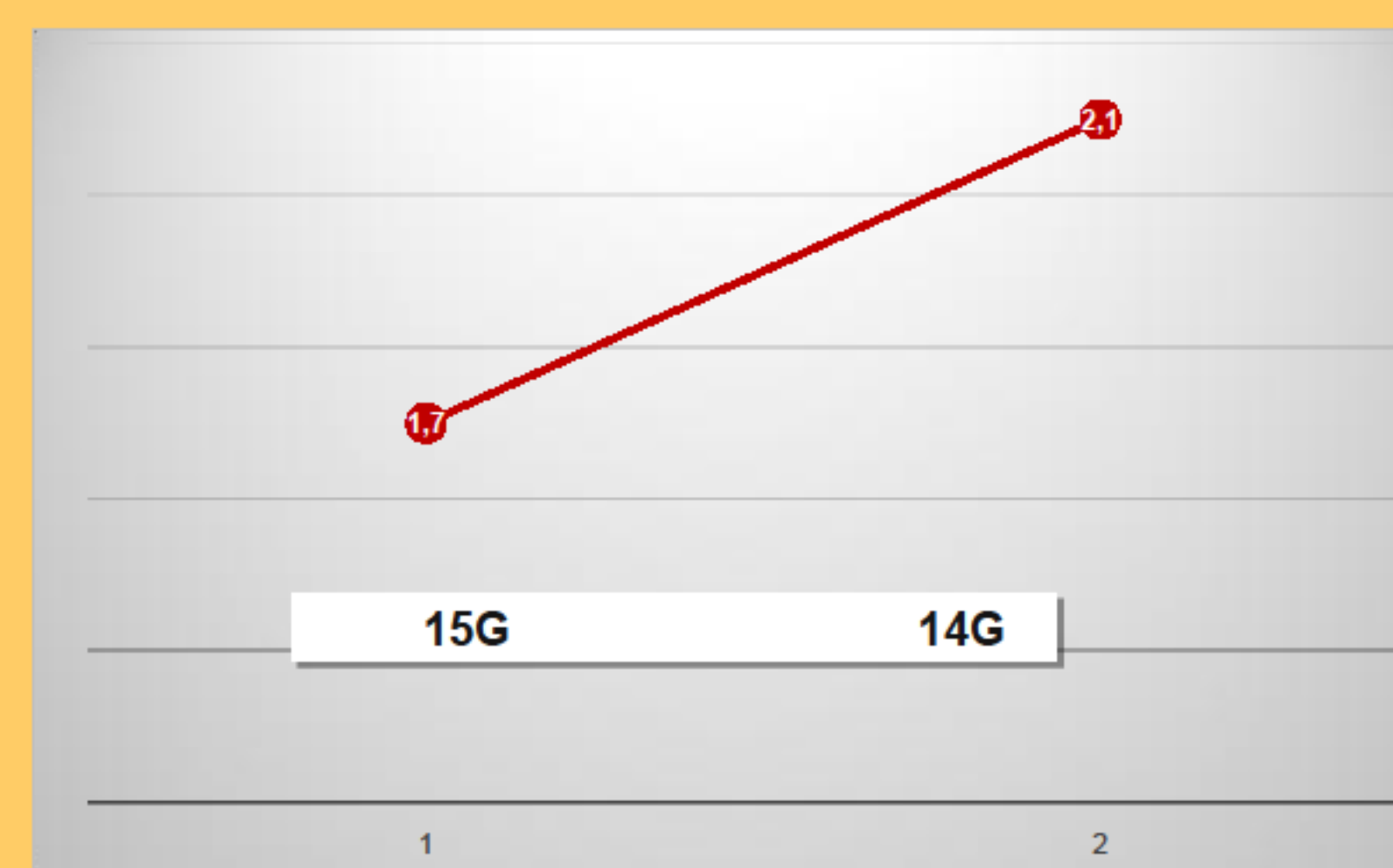
Blood flow(ml/min)



Vol. Blood processed (Liters)

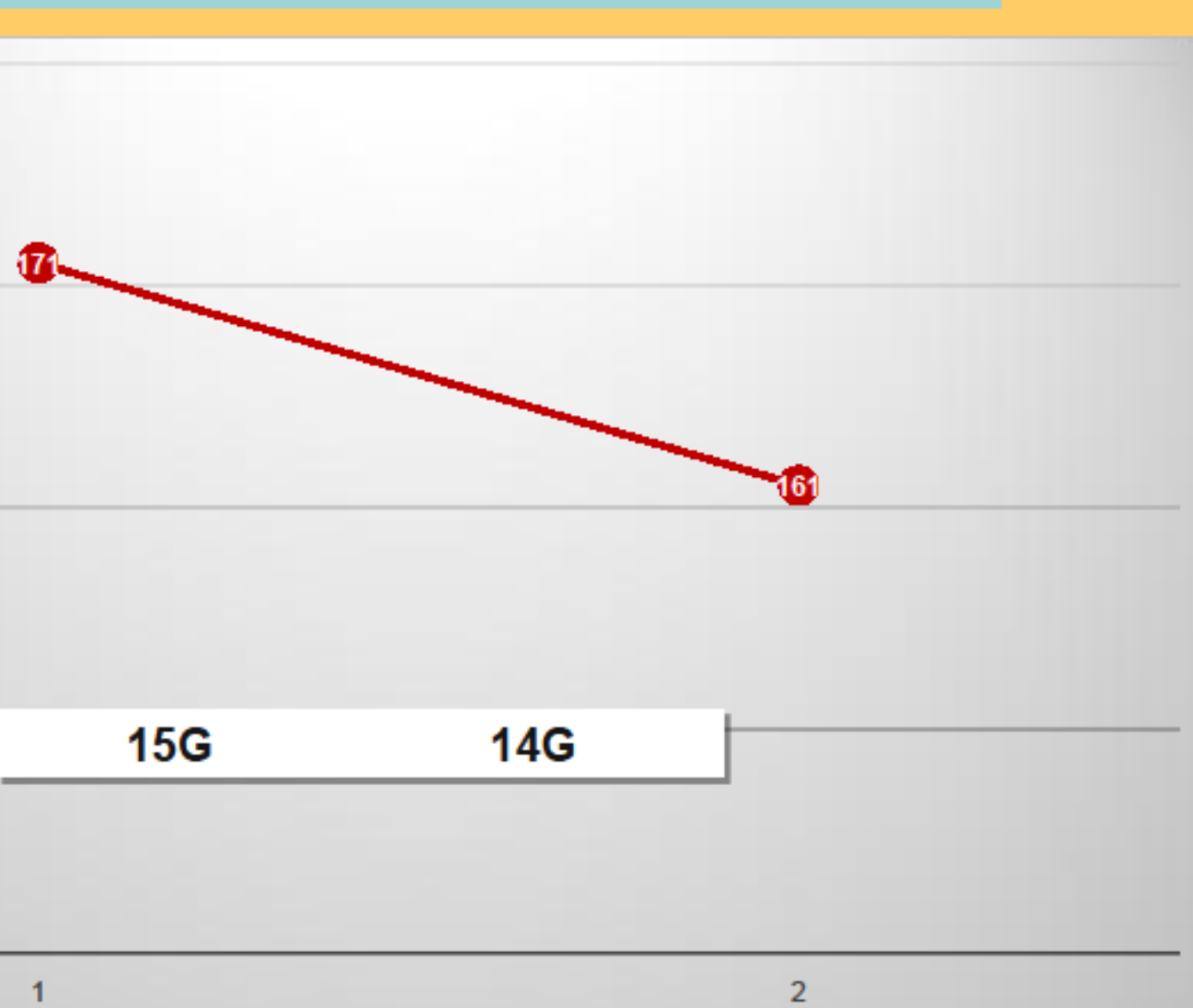


KT/V

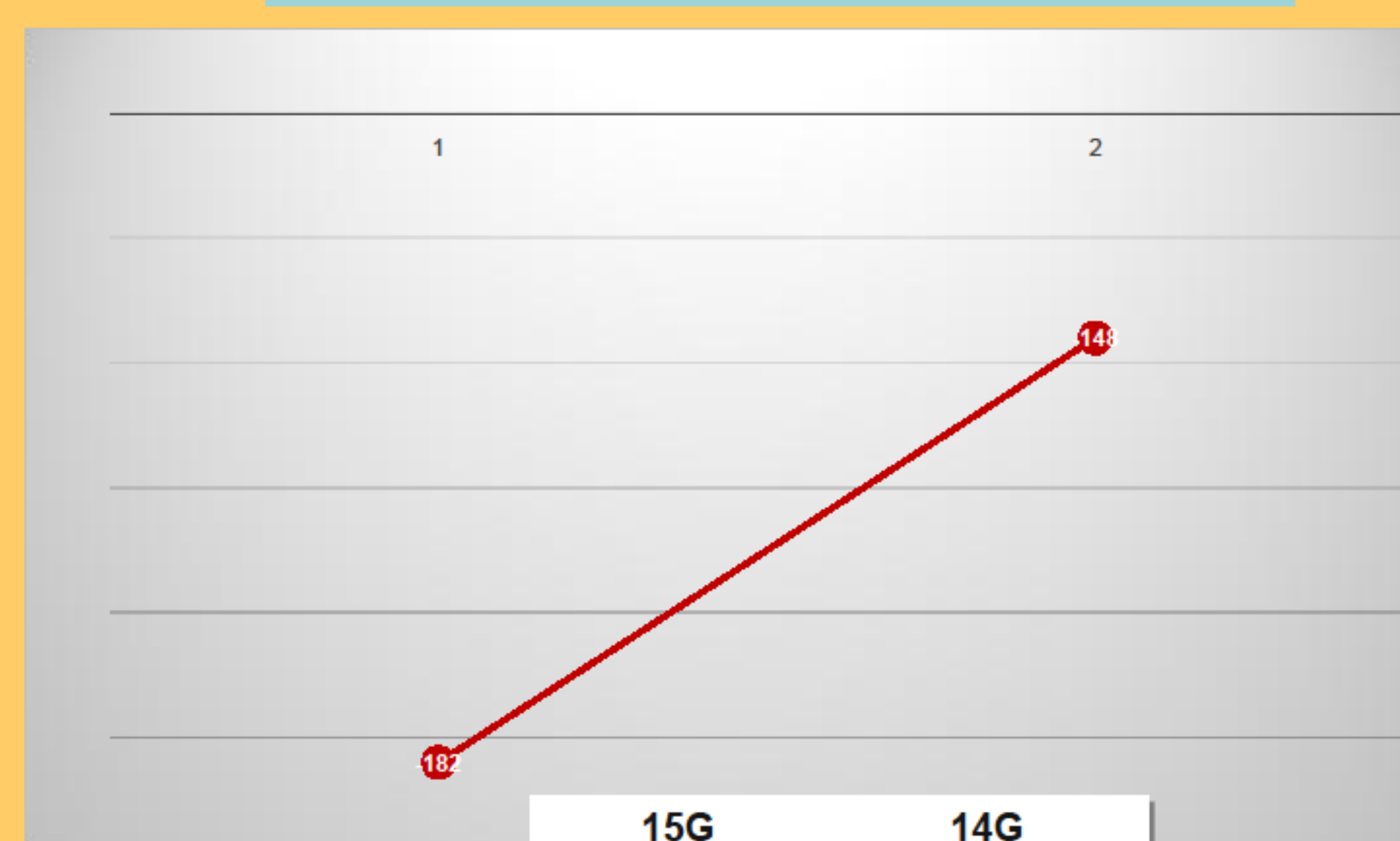


	15 G	14G	p
Blood flow (ml/min)	360 ± 20	460 ± 10	< 0.001
Vol. of blood processed (Liters)	86 ± 3	106 ± 2	< 0.001

Venous Pressure (mmHg)



Arterial pressure (mmHg)



	15 G	14G	p
Presión venosa (mmHg)	170 ± 5	160 ± 5	0.001
Presión arterial (mmHg)	- 180 ± 10	- 150 ± 10	< 0.001

Baseline Characteristics	
Age (years)	71 ± 5
Sex (male)	60%
Diabetes	38.2%
Hypertensión	59%
Dialysis vintage (months)	34 (8-58)
Treatment time	3 p/week, 240 minutes
Dialysis modality	High flux hemodialysis
Dializer:	
• Elisio 21H	70%
• Elisio 19H	30%
Blood flow (ml/min)	360 ± 20
Blood processed (Liters)	86 ± 3
Venous pressure (mmHg)	170 ± 5
Arterial pressure (mmHg)	-180 ± 10
Dialysate flow (ml/min)	500
Single pool KT/V	1.7 ± 0.4

Conclusions:

Using 14-gauge needle size is an inexpensive, simple and apparently safety way to increase blood flow rate, volume of processed blood and dialysis dose. This increase in blood flow rate may lead to a reduction in anticoagulant dose needed during dialysis. We did not observed a greater number of thrombosis or other complication of the vascular access, although the follow-up period is short.

DIAVERUM