Inicio Urgente de Diálisis Peritoneal

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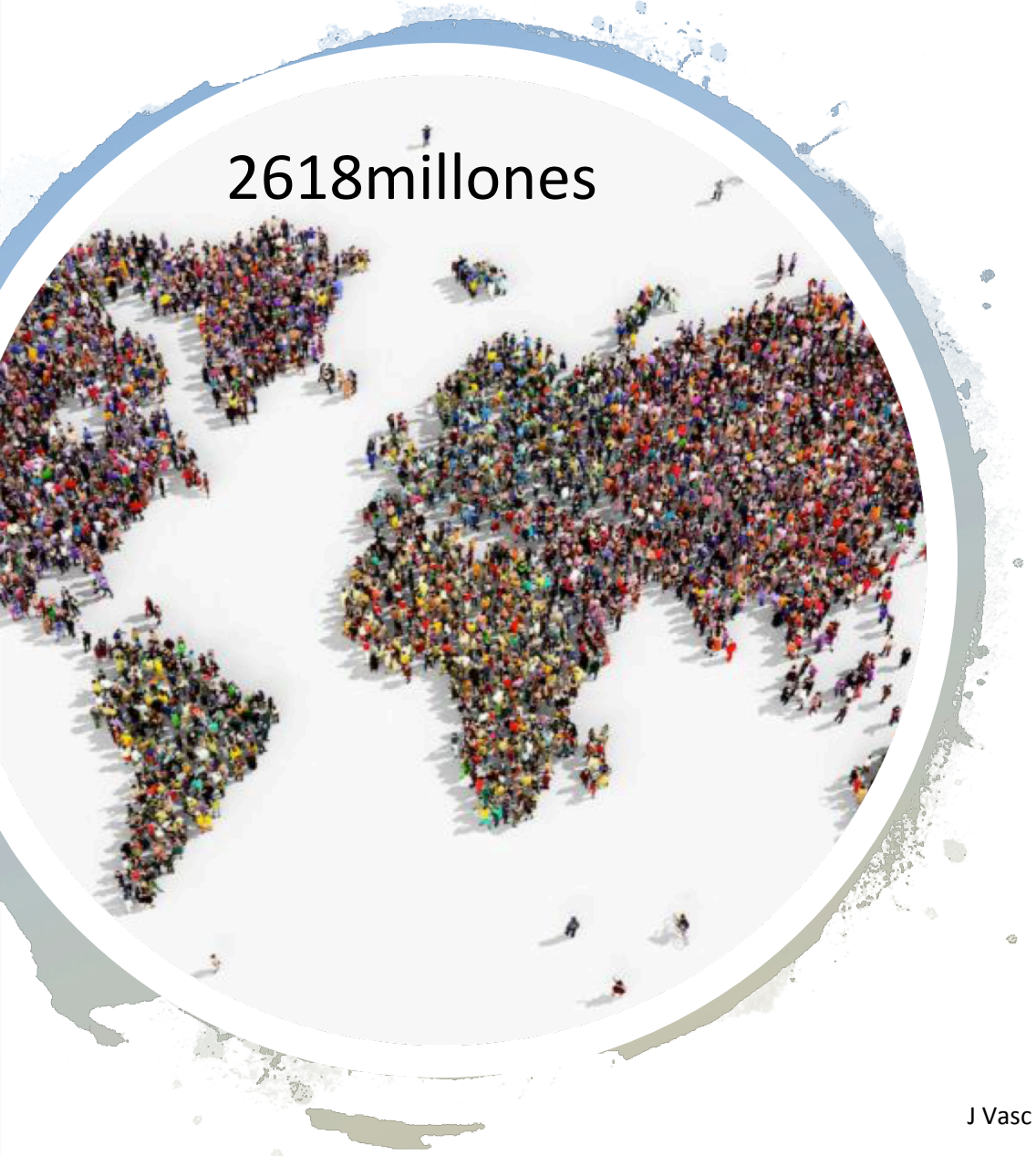
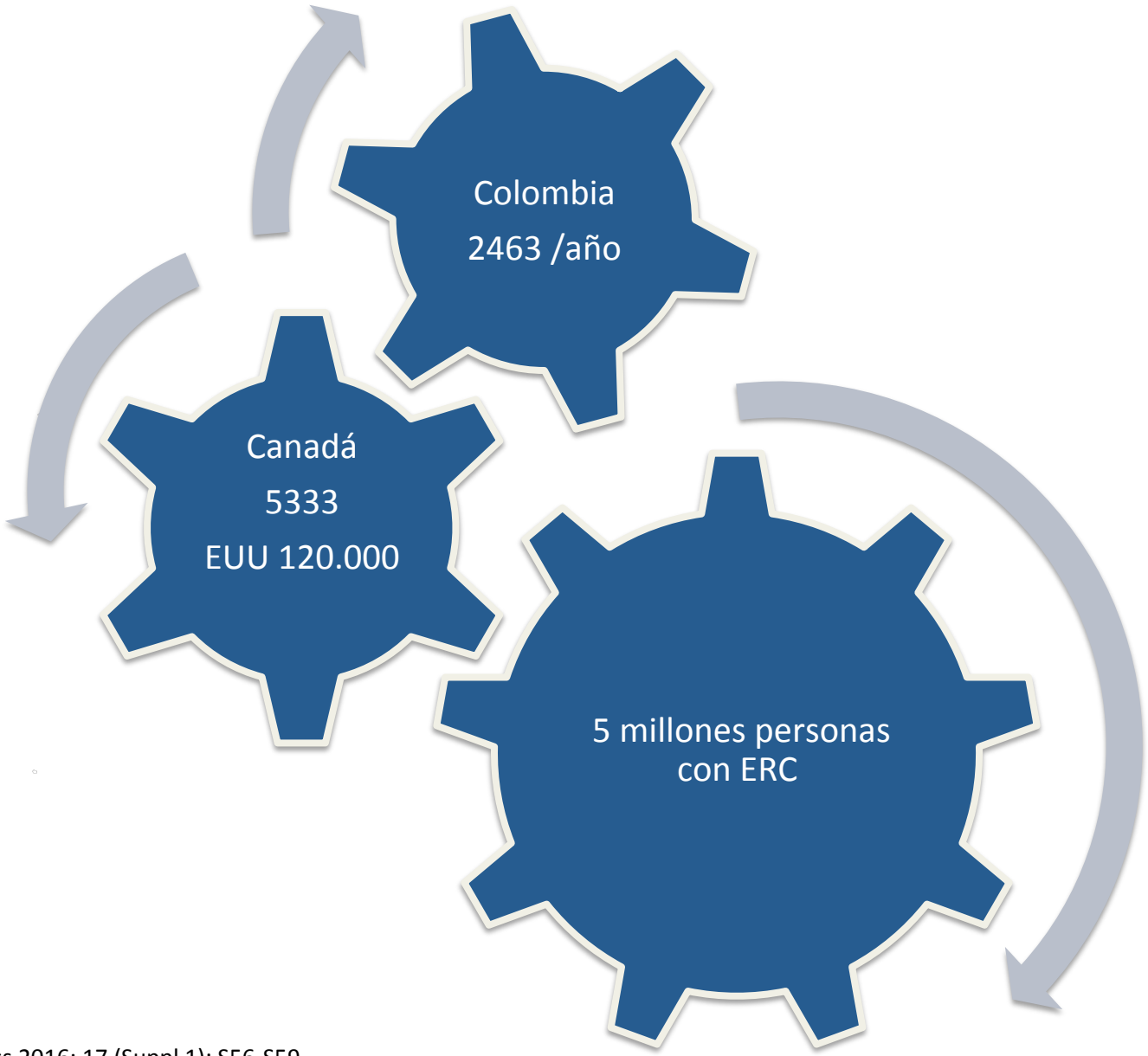
Conflictos de interés

- Conferencias para RTS Baxter
- Empleado RTS

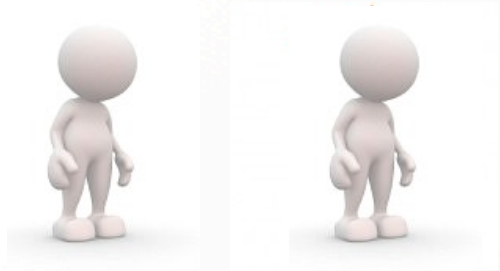
Objetivos

- Estado actual
- Definiciones
- Eficacia y Seguridad
- Experiencia





J Vasc Access 2016; 17 (Suppl 1): S56-S59
Cuenta de alto costo 2017
Seminars in Nephrology, Vol 37, No 2, March 2017, pp 151–158



Inicio de diálisis

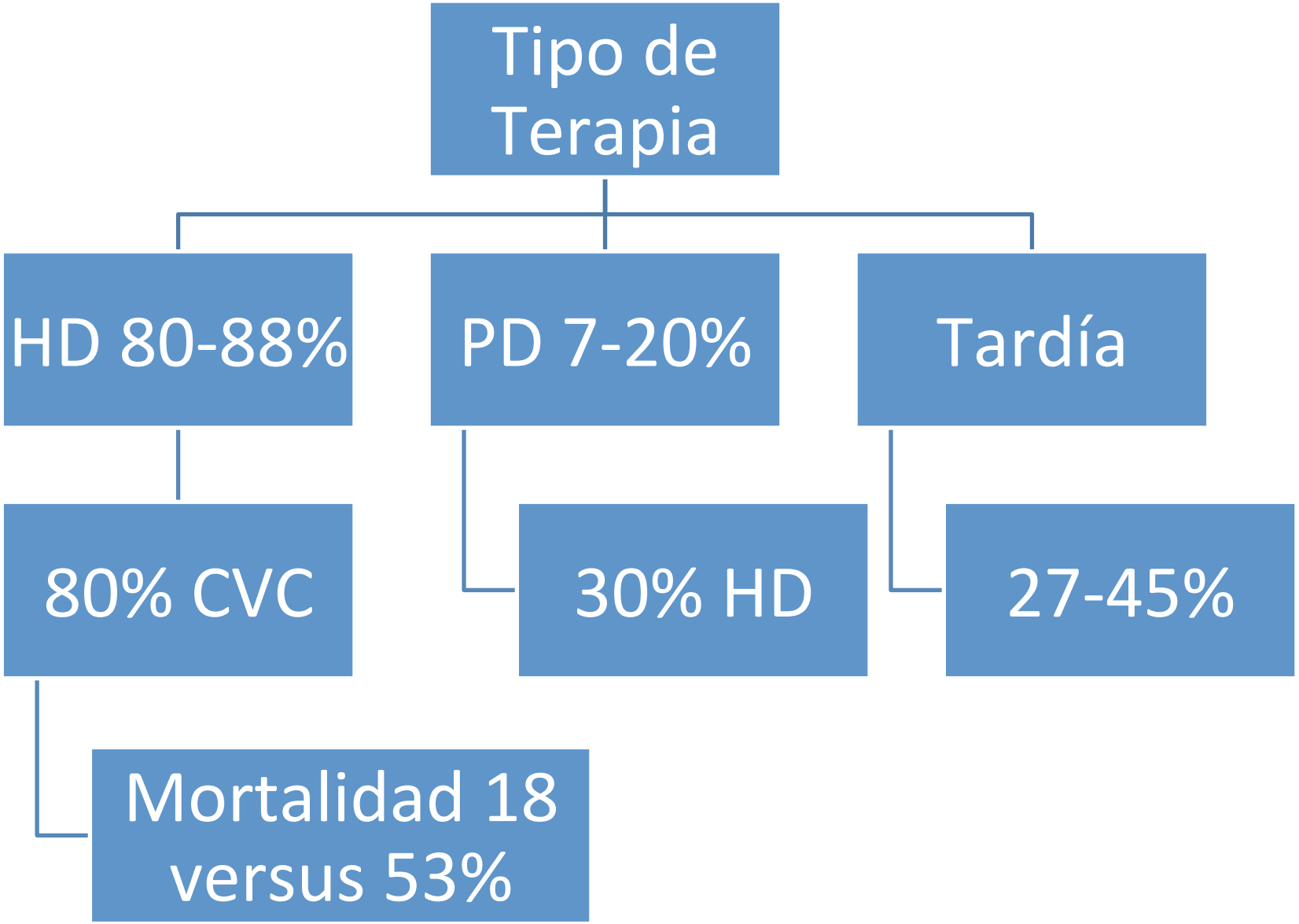
Paciente

- Urgente
- Emergente

Nefrología

- Referencia Tardía
  - No planeado
- Evaluación

J Vasc Access 2016; 17 (Suppl 1): S56-S59



Seminars in Nephrology, Vol 37, No 2, March 2017, pp 151–158

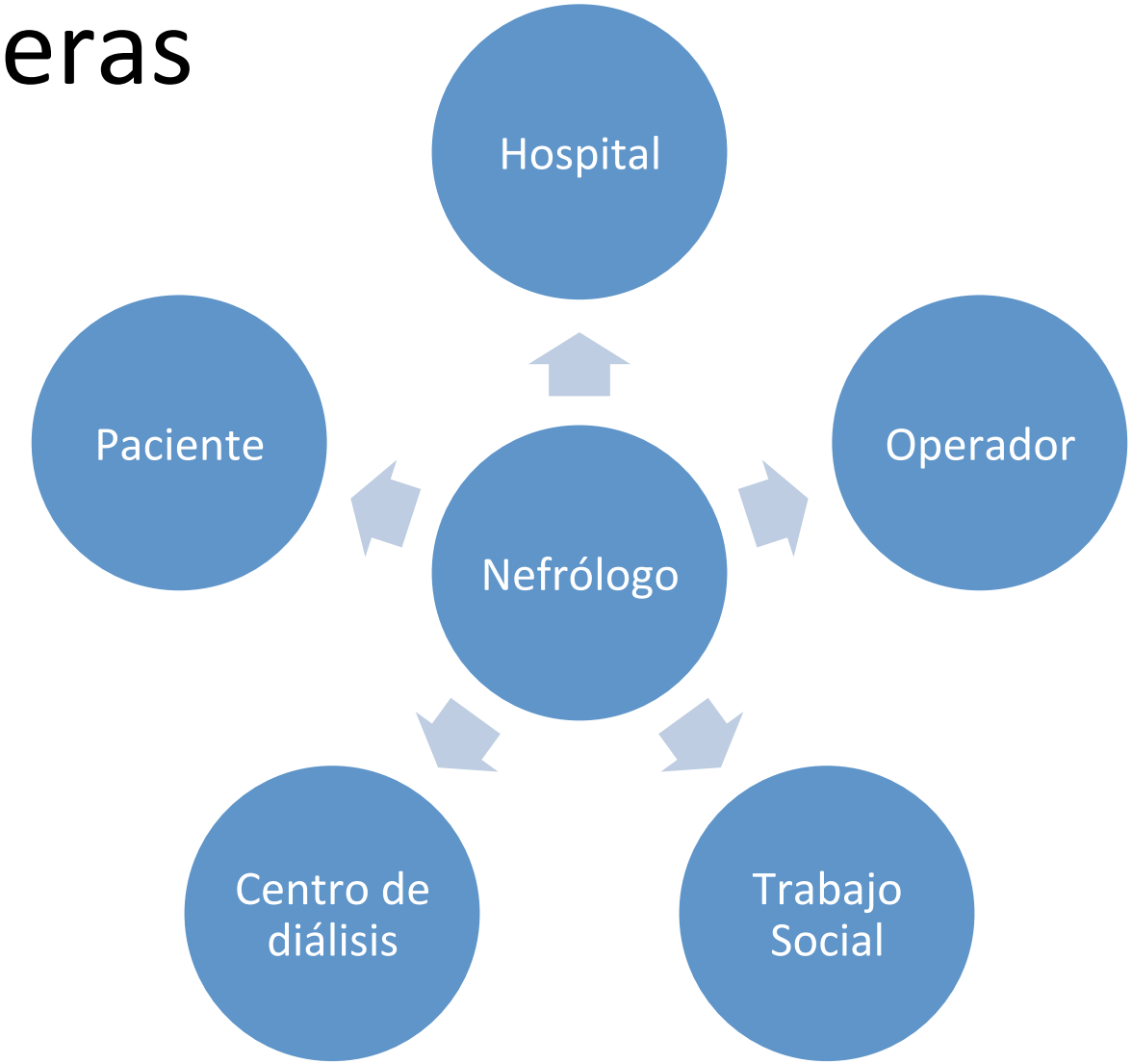
Seminars in Nephrology, Vol 37, No 2, March 2017, pp 151–158

Urgent -Start

- Inicio de terapia con dialsis peritoneal antes de las 2 semanas de insercion del cateter
- Inicio de dialisis con un acceso no definitivo

Curr Opin Nephrol Hypertens 2018, 27:000–000

Barreras



Seminars in Nephrology, Vol 37, No 2, March 2017, pp 151–158

Predictores de inicio urgente

Li et al. BMC Nephrology (2017) 18:359

Table 2 Multivariate logistic regression analysis showing predictors for emergent initiation of dialysis in incident ESRD patients

Emergent-start dialysis	PD		HD	
	Odds ratio (95% CI)	*p* value	Odds ratio (95% CI)	*p* value
Predialysis education program (no vs. yes)	3.17 (1.19–8.42)	0.021	24.77 (10.18–60.25)	< 0.001
eGFR (per ml/min/1.73 m^2)	0.68 (0.51–0.92)	0.012	0.63 (0.53–0.75)	< 0.001
Albumin (per g/dl)	0.14 (0.04–0.43)	0.001	0.26 (0.15–0.46)	< 0.001
Comorbidities (yes vs. no)				
Coronary artery disease	–	–	2.87 (1.05–7.86)	0.040
Valvular heart disease	–	–	5.89 (1.17–29.78)	0.032

Hemodiálisis

Bacteremia 90 días
Hospitalización
CVC 74,5%
CVC Pronóstico

Peritoneal

97,6% PD
1 - 2 años
5 años 20% mejor

J Nephrol. 2019 Feb;32(1):51-56

Modalidad

Supervivencia

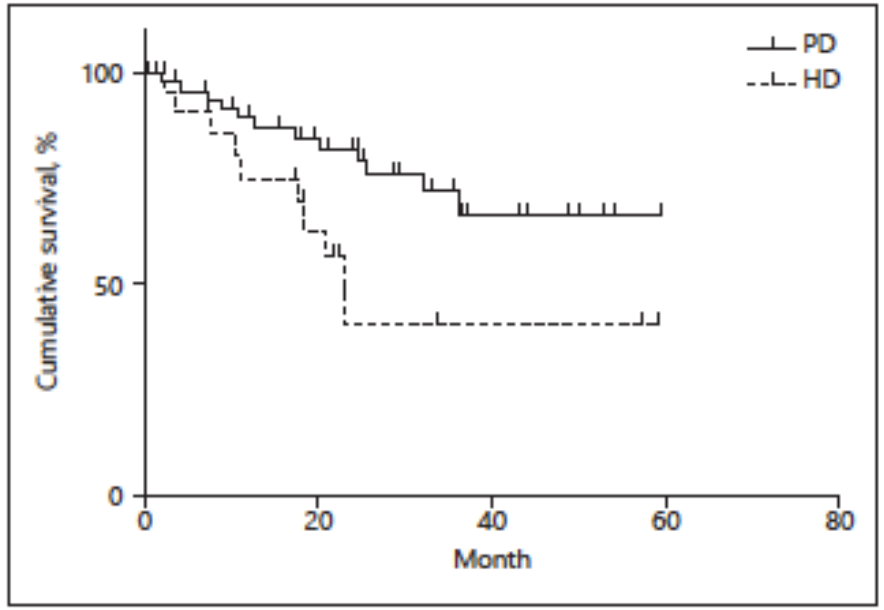


Fig. 1. Patient survival curves. There was no significant difference between the PD and HD groups in terms of patient survival (log-rank = 5.582, $p = 0.018$). PD, peritoneal dialysis; HD, hemodialysis.

Table 4. Independent risk factors for patient survival by multiple cox modeling analysis

Factor	OR	95% CI	*p* value
Urgent-start HD versus PD	3.469	1.281–9.395	0.014
K (by 1 mmol/L increase)	0.267	0.124–0.575	0.001
Alb (by 1 mmol/L increase)	0.918	0.851–0.989	0.025
Chronic heart failure	0.748	0.295–1.895	0.540
Age (by 1 year increase)	1.023	0.987–1.060	0.218

HD, hemodialysis; PD, peritoneal dialysis; K, serum potassium; Alb, serum albumin.

Blood Purif 2019;47:52–57

Supervivencia

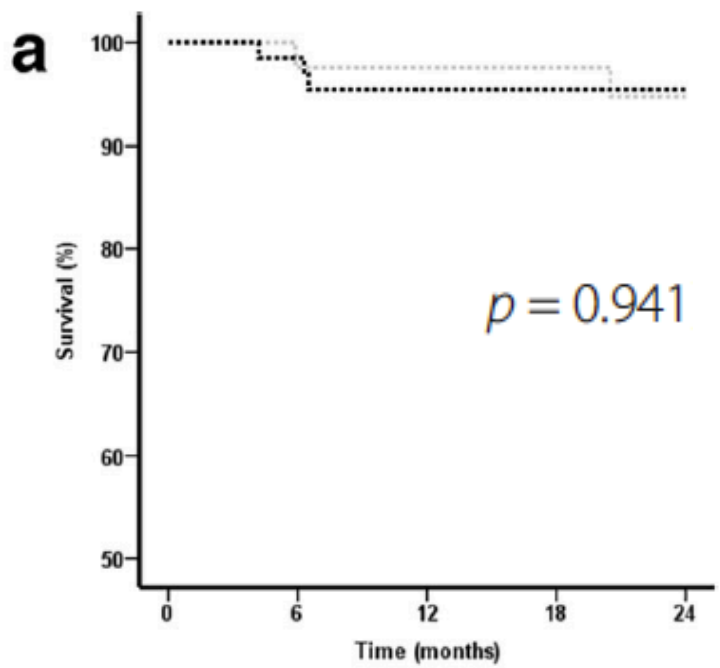
Curr Opin Nephrol Hypertens 2018, 27:000–000

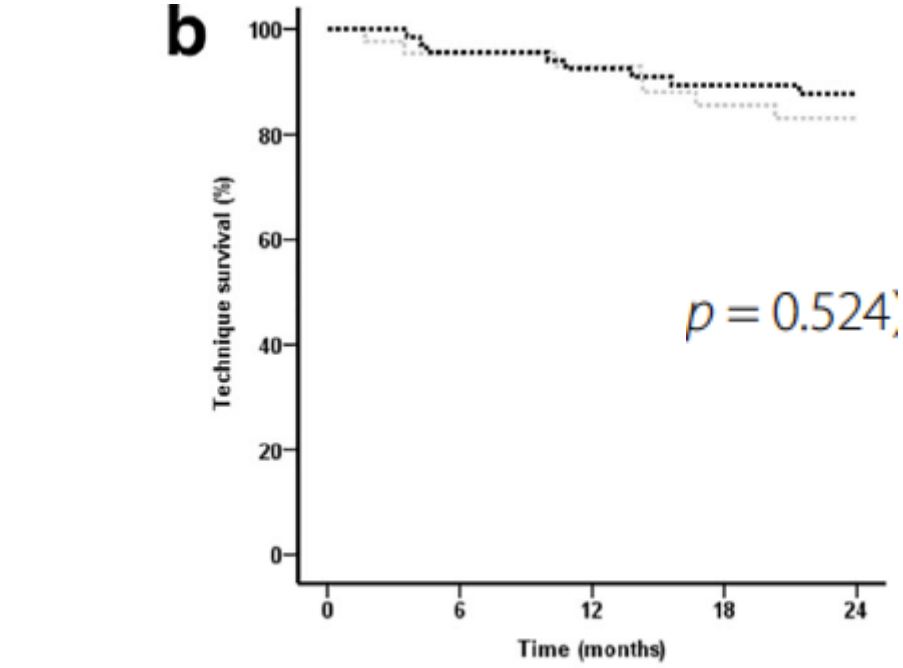
Table 2. Main studies on urgent-start peritoneal dialysis

Authors	Year	Study	*n*	Groups	Results
Ivarsen and Povlsen [44]	2013	Review	–	PD vs. HD	No difference in patient survival
Koch *et al.* [45]	2012	Prospective observational	123	PD vs. HD	Higher rate of bacteremia in HD
Lobbedez *et al.* [46]	2008	Prospective observational	60	PD vs. HD	No difference in patient survival
Jin *et al.* [47]	2016	Prospective observational	178	PD vs. HD	HD: risk factor for dialysis Complications
Polvsen *et al.* [51]	2015	Prospective observational	-	PD urgent-start	Survival 90% (3 months) and 80% (1 year)
Alkatheeri *et al.* [52]	2015	Prospective observational	30	PD urgent-start	Absence of early infectious complication
Dias *et al.* [57]	2016	Prospective observational	35	PD urgent-start	Survival 80% (90 days) and growth of 41% in chronic PD
Dias *et al.* [58▪▪]	2017	Prospective observational	51	PD urgent-start	Patient survival: 82%; Growth of chronic PD: 95%

HD, hemodialysis; PD, peritoneal dialysis.

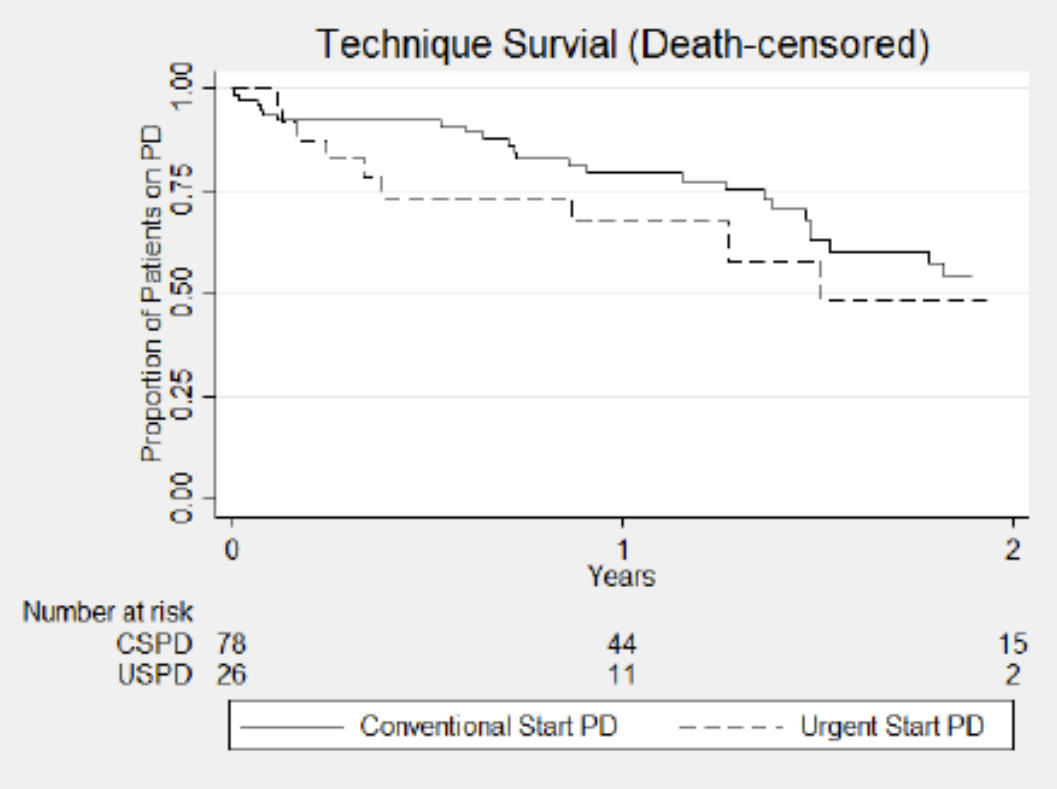
Urgent Star PD versus PD

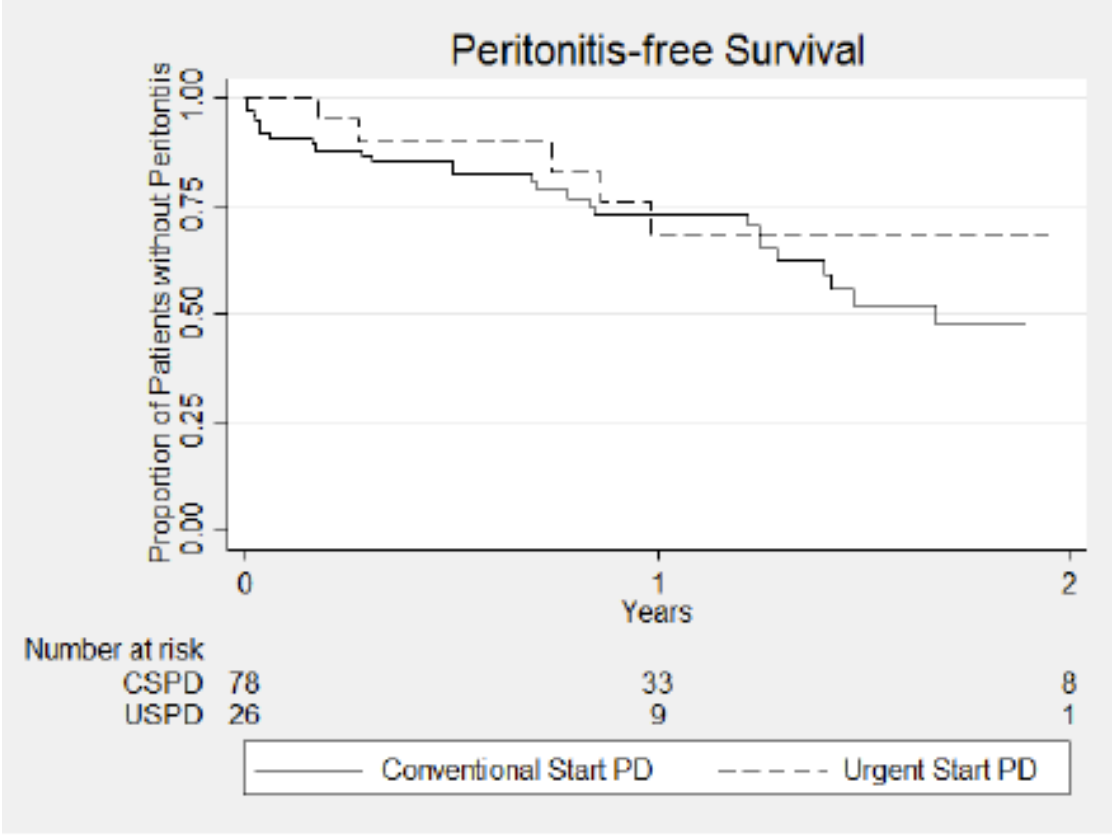




Li et al. BMC Nephrology (2017) 18:359

Urgent Star PD versus PD





Perit Dial Int. 2017 Jul-Aug;37(4):414-419

Adecuación

Table 2. Comparison of Short-term (90-day) Clinical Outcomes

	Urgent-Start PD (n = 15)	Non–Urgent-Start PD (n = 6)	*P*[a]
Kt/V_{total}	2.7 ± 0.9	3.0 ± 0.7	0.6
Anemia			
Hemoglobin (g/dL)	11.9 ± 1.8	11.6 ± 2.3	0.6
Iron saturation (%)	30.2 ± 12.2	35.5 ± 19.1	0.7
Metabolic bone disease			
Parathyroid hormone (pg/mL)	484.3 ± 210.0	329.8 ± 171.2	0.2
Calcium (mg/dL)	7.8 ± 0.9	9.1 ± 0.7	0.02
Phosphorus (mg/dL)	5.1 ± 1.3	4.5 ± 1.0	0.2
Nutrition			
Albumin (g/dL)	3.50 ± 0.5	3.90 ± 0.4	0.08

Am J Kidney Dis. 2012;59(3):400-408

Seguridad

- Cohorte 922 Adultos
- 2003-2013
- CAPD
- Pekín
- Volumen 500-800
- 4,8% Complicaciones pared
- 9,5% complicaciones catéter

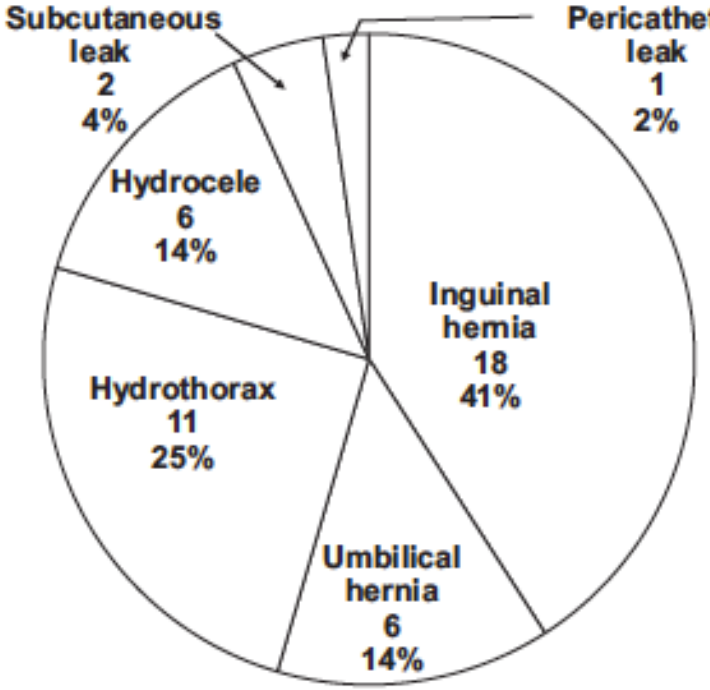


Figure 4. Distribution of abdominal wall complications.

Am J Kidney Dis. 2017 Jul;70(1):102-110

Table 2. Characteristics of Mechanical Complications

	Total[a]	Early Complications[b]	Surgical Repair[b]	Relapse[c]	Transfer to HD[b]
Abdominal wall complications	44 (5)	9 (21)	18 (41)	2 (11)	21 (48)
Hernia	24 (3)	2 (8)	18 (75)	2 (11)	4 (17)
Inguinal hernia	18 (2)	2 (11)	14 (78)	2 (14)	2 (11)
Umbilical hernia	6 (1)	0 (0)	4 (67)	0 (0)	2 (33)
Hydrothorax	11 (25)	3 (27)	0 (0)		10 (91)
Hydrocele	6 (1)	2 (33)	0 (0)		6 (100)
Pericatheter leak	1 (0.1)	1 (100)	0 (0)		0 (0)
Subcutaneous leak	2 (0.2)	1 (50)	0 (0)		1 (50)
Catheter complications	18 (10)	18 (100)	3 (17)	0 (0)	1 (6)
Catheter obstruction	13 (7)	13 (100)	0 (0)		0 (0)
Catheter shift	4 (2)	4 (100)	3 (75)	0 (0)	0 (0)
Omental wrap	1 (1)	1 (100)	0 (0)		1 (100)

- Am J Kidney Dis. 2017 Jul;70(1):102-110

Table 4. Odds Ratios for Catheter-Related Complications

	Crude Logistic Regression		Multivariable Logistic Regression	
	OR (95% CI)	*P*	OR (95% CI)	*P*
Age, per 1 y older	0.96 (0.93-0.99)	0.01	0.95 (0.91-0.98)	0.005
Male sex vs female	0.95 (0.36-2.54)	0.9	0.71 (0.20-2.49)	0.6
BMI, per 1 kg/m^2 greater	0.95 (0.83-1.09)	0.5	0.90 (0.77-1.05)	0.2
Hemoglobin, per 1 g/L greater	0.96 (0.93-0.99)	0.01	0.97 (0.93-1.01)	0.1
Albumin, per 1 g/L greater	0.95 (0.86-1.04)	0.3	0.93 (0.82-1.06)	0.3
C-Reactive protein, per 1 mg/L greater	1.00 (0.97-1.04)	0.8	1.00 (0.97-1.04)	0.9
Break-in period, per 1 d longer	0.96 (0.77-1.19)	0.7	1.04 (0.80-1.35)	0.8
Abdominal surgery history vs no such history	1.07 (0.29-3.94)	0.9	1.45 (0.24-8.67)	0.7
Exchange volume standardized by BSA, per 100 mL greater	0.93 (0.82-1.06)	0.3	0.89 (0.75-1.05)	0.2
Dwell overnight[a] vs not overnight	1.22 (0.44-3.41)	0.7	0.96 (0.29-3.20)	0.9

- Am J Kidney Dis. 2017 Jul;70(1):102-110

Table 3. HRs for Abdominal Wall Complications

	Crude Cox Regression		Multivariable Cox Regression	
	HR (95% CI)	*P*	HR (95% CI)	*P*
Age, per 1 y older	1.02 (1.00-1.04)	0.1	1.02 (1.00-1.05)	0.09
Male sex vs female	3.91 (1.93-8.00)	<0.001	5.41 (2.15-13.59)	<0.001
BMI, per 1 kg/m^2 greater	1.05 (0.98-1.14)	0.2	1.02 (0.92-1.13)	0.7
Hemoglobin, per 1 g/L greater	0.99 (0.98-1.01)	0.4	1.01 (0.98-1.03)	0.7
Albumin, per 1 g/L greater	0.97 (0.91-1.03)	0.3	1.01 (0.93-1.09)	0.9
C-Reactive protein, per 1 mg/L greater	0.96 (0.91-1.02)	0.2	0.95 (0.88-1.02)	0.1
Break-in period, per 1 d longer	0.94 (0.82-1.08)	0.4	0.97 (0.82-1.14)	0.7
Abdominal surgery history vs no such history	1.91 (0.96-3.78)	0.06	2.34 (1.04-5.26)	0.04
Exchange volume standardized by BSA, per 100 mL greater	0.91 (0.83-0.99)	0.03	0.93 (0.84-1.03)	0.2
Dwell overnight[a] vs not overnight	1.09 (0.57-2.10)	0.8	1.25 (0.60-2.58)	0.6

- Am J Kidney Dis. 2017 Jul;70(1):102-110

Como se implementa

Tipo de insercion de cateter

TABLE 1 Mechanical complications in USPD with different modes of PD catheter insertion

		revision
Surgical catheter insertic		)
Laparoscopic catheter in		95%
Percutaneous catheter i		

TABLE 2 Cumulative data from the available studies

	Surgical	Laparoscopic	Percutaneous
Total patients	374	33	103
Catheter leaks	9 (2.5%)	3 (9%)	8 (8%)
Catheter migration	18 (5%)	2 (6%)	9 (9%)
Catheter revision	11 (2%)	2 (6%)	9 (9%)

USPD, urgent-start peritoneal dialysis.

Seminars in Dialysis. 8 feb 2019;1–4.

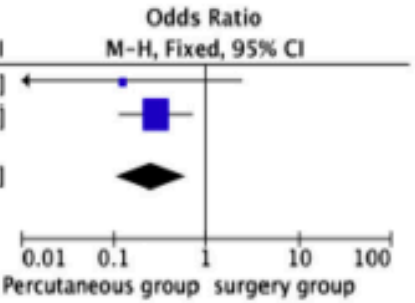
Evidencia

Sensitivity analysis of overall infectious complication (randomized controlled study groups)

Study or Subgroup	Percutaneous group Events	Total	Surgery Group Events	Total	Weight	Odds Ratio M-H, Fixed, 95% CI
Atapour A.	0	31	3	30	17.2%	0.12 [0.01, 2.52]
Voss D.	31	51	43	51	82.8%	0.29 [0.11, 0.74]
Total (95% CI)		82		81	100.0%	0.26 [0.11, 0.64]
Total events	31		46			

Heterogeneity: $Chi^2 = 0.28$, df = 1 (P = 0.60); $I^2 = 0\%$

Test for overall effect: Z = 2.96 (P = 0.003)

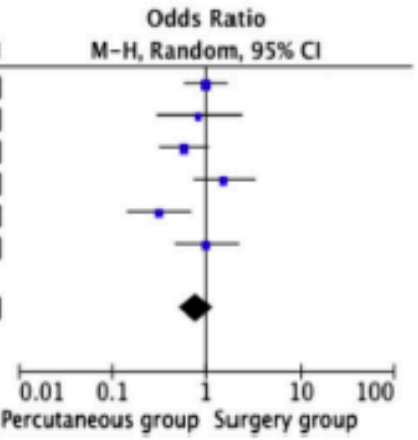


Sensitivity analysis of overall infectious complication (observational study groups)

Study or Subgroup	Intervention group Events	Total	Surgery Group Events	Total	Weight	Odds Ratio M-H, Random, 95% CI
Maher E.	101	133	116	153	21.5%	1.01 [0.58, 1.73]
Mellotte GJ.	5	50	21	180	11.2%	0.84 [0.30, 2.36]
Ozener C.	31	133	28	82	19.7%	0.59 [0.32, 1.08]
Park YS.	24	89	15	78	16.7%	1.55 [0.75, 3.23]
Rosenthal MA.	24	54	38	53	15.1%	0.32 [0.14, 0.71]
Roueff S.	28	57	23	47	15.8%	1.01 [0.47, 2.18]
Total (95% CI)		516		593	100.0%	0.80 [0.52, 1.22]
Total events	213		241			

Heterogeneity: $Tau^2 = 0.14$; $Chi^2 = 10.32$, df = 5 (P = 0.07); $I^2 = 52\%$

Test for overall effect: Z = 1.03 (P = 0.30)



Intermitente Versus APD

Table 6. Catheter-related complications and outcomes during the first year period

Variable	IPD	APD	*p* value
Catheter dysfunction, *n* (%)	10 (20)	4 (7.8)	0.077*
Malposition	2 (4)	2 (3.9)	0.984
Leakage	5 (10)	2 (3.9)	0.444
Omental wrap	1 (2)	0 (0)	–
Obstruction	2 (4)	0 (0)	–
Catheter dysfunction needing surgical intervention, *n* (%)	1 (2)	0 (0)	–
Infection, *n* (%)	13 (26)	7 (13.7)	0.122

Chi-square test compare the difference between the incidence rate of IPD and APD. * *p* value <0.10.

Table 7. Technique failure and patients mortality during the first year

Variable	IPD	APD	*p* value
Transfer to HD, *n* (%)	1 (2)	1 (1.96)	0.989
Transfer to kidney transplantation, *n* (%)	2 (4)	4 (7.8)	0.414
Death, *n* (%)	0 (0)	0 (0)	–

Chi-square test compared the difference between the incidence rate of IPD and APD.

Am J Nephrol 2017;45:540–548

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Protocolos

Study	Year	Catheter insertion technique	Prescription	Initiation
Povlsen et al. [6]	2006	Open surgical	12 h overnight APD < 60 kg-Total volume 10 L-Dwell volume 1.2 L > 60 kg-Total volume 14 L-Dwell volume 1.5 L 50–70% tidal volume Converted to standard APD after 10–14 days	< 24 h
Jo et al. [4]	2007	Percutaneous	CAPD 500 mL every 3 h for 3 days 1000 mL every 4 h for next 4 days Then 2000 mL four exchanges per day Supine position with minimal ambulation during first 3 days	< 24 h
Yang et al. [15]	2011	Open surgical	CAPD 4 or more exchanges with 500 mL. Increased to 750 mL on day 6 and 1000 mL on day 8. Increased to four exchanges with 1500 mL on day 12	< 24 h
Koch et al. [17]	2012	Laparoscopic	Intermittent, nocturnal APD, three times a week, 12 h each session, treatment volume 10–20 L/12 h Dwell volume increased from 500 to 2000 mL during the first 3 weeks	< 24 h

J Nephrol. 2019 Feb;32(1):51-56

Protocolos

Ghaffari [5]	2012	Percutaneous	Intermittent APD, three times a week 5–8 h per session MDRD GFR > 7 mL/min BSA < 1.65/m^2 500 mL four cycles BSA 1.65–1.8/m^2 750 mL five cycles BSA > 1.8/m^2 1000 mL six cycles MDRD GFR < 7 mL/min BSA < 1.65/m^2 500 mL six cycles BSA 1.65–1.8/m^2 2750 mL six cycles BSA > 1.8/m^2 1250 mL six cycles	1–13 days
Alkatheeri et al. [7]	2016	Percutaneous and laparoscopic	APD in supine position for 2 weeks Initial dwell volume was 1000–1200 mL. Gradually increased up to 1900 mL by the end of 3–4 weeks	1–13 days
Javaid et al. [2]	2017	Percutaneous and Laparoscopic	Intermittent PD, 3–5 days a week either manually or with cycler, 8 h per session, 4–5 cycles a day, supine position Week 1: < 60 kg 500 mL, 61–80 kg 750 mL, > 80 kg 1000 mL Week 2: < 60 kg 1000 mL, 61–80 kg 1500 mL, > 80 kg 2000 mL Start conventional APD or CAPD after 2 weeks	1–13 days

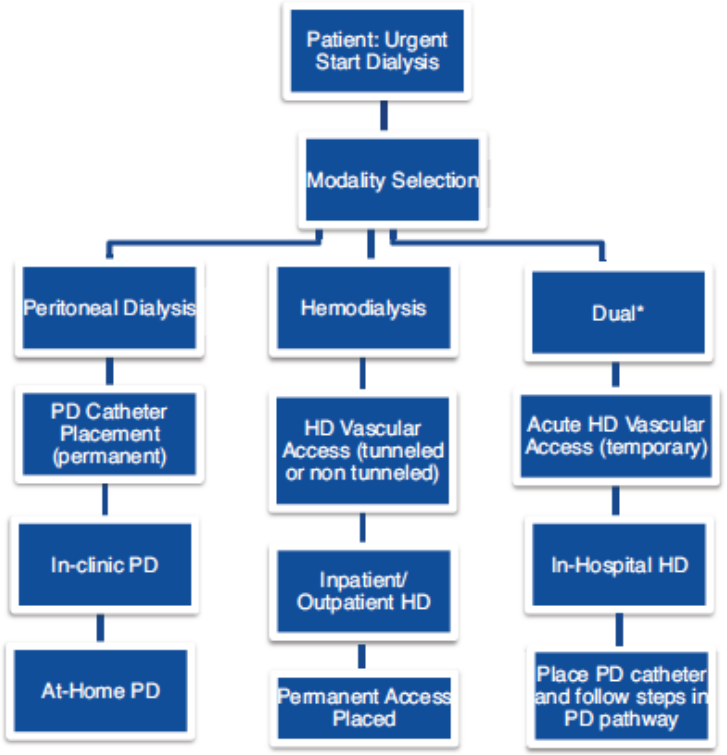
J Nephrol. 2019 Feb;32(1):51-56

Costo

OPEN

Economic Evaluation of Urgent-Start Peritoneal Dialysis Versus Urgent-Start Hemodialysis in the United States

Frank Xiaoqing Liu, PhD, Arshia Ghaffari, DO, MA, MBA, Harman Dhatt, MS, Vijay Kumar, MD, Cristina Balsera, MD, Eric Wallace, MD, Quresh Khairullah, MD, Beth Lesher, PharmD, Xin Gao, PhD, Heather Henderson, DO, Paula LaFleur, RN, Edna M. Delgado, BSN, Melissa M. Alvarez, BSN, Janett Hartley, RN, Marilyn McClernon, RN, Surrey Walton, PhD, and Steven Guest, MD



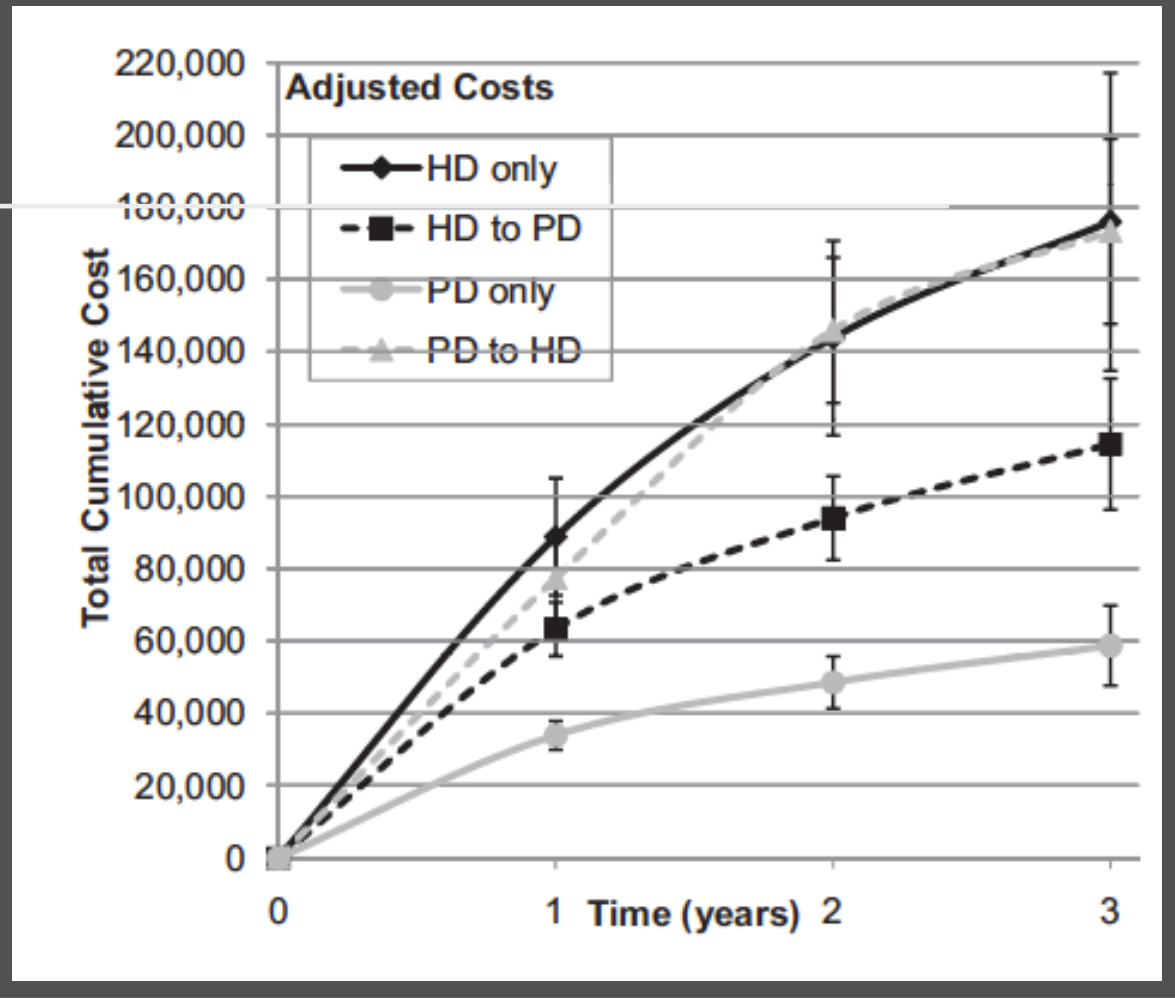
- EEUU
- PD cuesta 14.000 dolares menos por año HD
- Medicare
- PD $16,398 Vs HD $19,352

Am J Kidney Dis. 2018 Mar;71(3):309-311
Medicine Volume 93, Number 28, December 2014

AJKD
Original Investigation

Health Care Costs of Peritoneal Dialysis Technique Failure and Dialysis Modality Switching

- 3 años
- Adultos 1999-2003
- Alberta Canada
- 82% HD
- 18% PD



Am J Kidney Dis. 2013;61(1):104-111

Peritoneal Dialysis International, Vol. 33, pp. 662–670
doi: 10.3747/pdi.2011.00309

0896-8608/13 $3.00 + .00

COST ANALYSIS OF HEMODIALYSIS AND PERITONEAL DIALYSIS ACCESS IN INCIDENT DIALYSIS PATIENTS

Luis A. Coentrão,[1] Carla S. Araújo,[1] Carlos A. Ribeiro,[2] Claúdia C. Dias,[3] and Manuel J. Pestana[1]

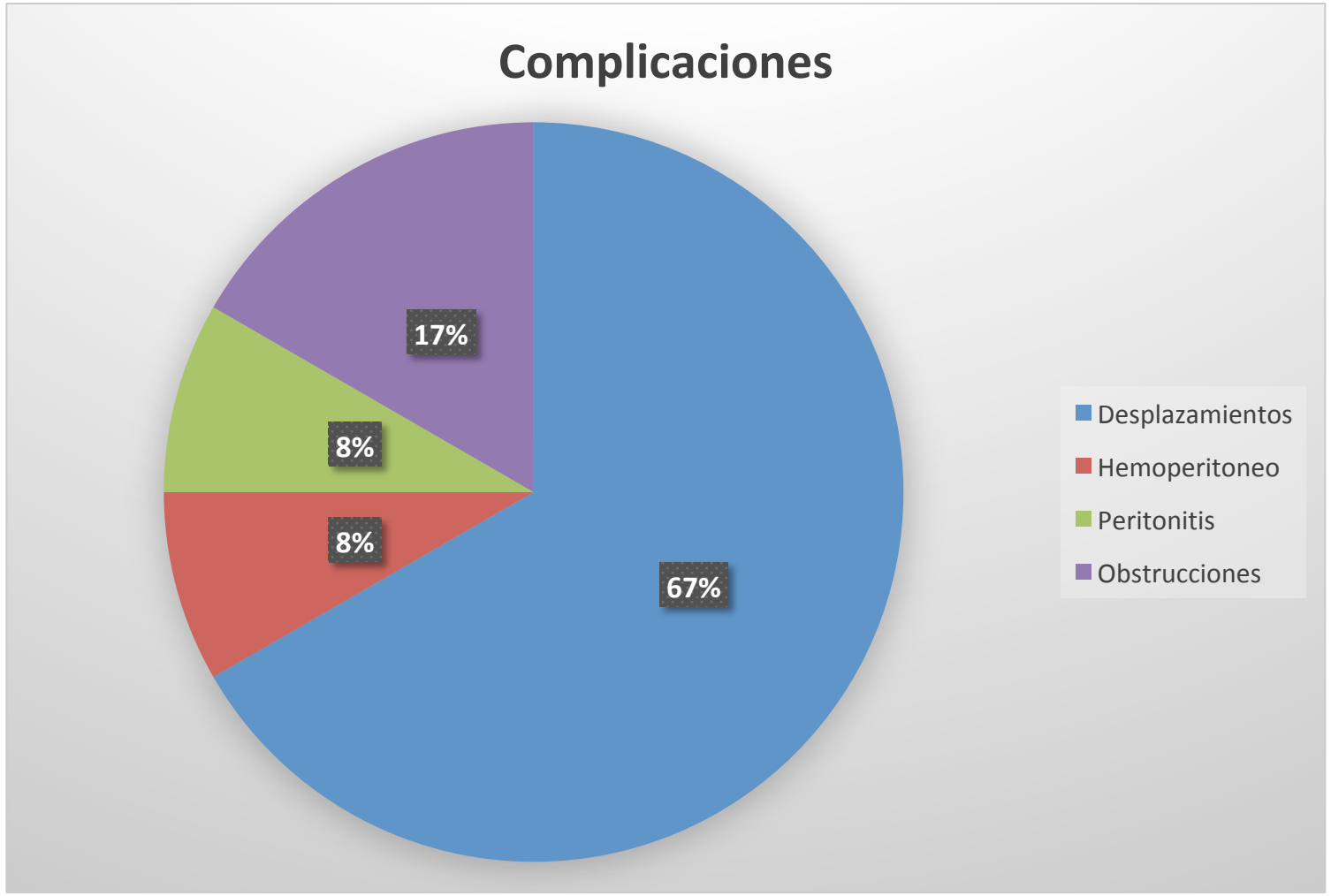
TABLE 2
Invasive Access Interventions by Dialysis Modality and Vascular Access Type

Intervention	Hemodialysis				Peritoneal dialysis	
	With AVF (*n*=65)		With TCC (*n*=45)		(*n*=42)	
	(*n*)	(%)[a]	(*n*)	(%)[a]	(*n*)	(%)[a]
Hemodialysis fistula						
Creation	75	55.1	40	24.5	0	0
Surgical revision or ligation	7	5.2	3	1.8	0	0
Angioplasty	15	11.0	5	3.1	0	0
Thrombectomy	5	3.7	1	0.6	0	0
Hemodialysis catheter						
Insertion	17	12.5	67	41.1	8	11.9
Exchange or removal	11	8.1	26	16.0	8	11.9
Thrombolysis	6	4.4	21	12.9	0	0
Peritoneal dialysis						
Catheter insertion	0	0	0	0	44	65.7
Catheter manipulation	0	0	0	0	1	1.5
Catheter removal	0	0	0	0	4	6.0
Lysis of adhesions or omentectomy	0	0	0	0	1	1.5
Correction of peritoneal leaks	0	0	0	0	1	1.5
TOTAL	136	100	163	100	67	100

[a] Of total interventions.

Experiencia Mederi

Año	Incidentes HD	Incidentes PD
2016	69	41
2017	95	72
2018	105	53



Conclusiones

- Útil y segura
- Eficiente
- Menos costosa
- El paciente correcto para la terapia correcta
- Plan de vida


méderi
Hospital Universitario Mayor