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( )

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*crossover - clinical trial*

$(P < / )$

(.)

*farhadmalek42@yahoo.com*

( )

pH

( ) PaO<sub>2</sub>

( )

CO<sub>2</sub>

( )

crossover - clinical trial

mmHg

PaO<sub>2</sub>

(S)

(R)

( )

PaO<sub>2</sub>

B A

( )

R

S

CO<sub>2</sub>

CO<sub>2</sub>

washout

(O<sub>2</sub>sat)

( )

CO<sub>2</sub>

)

O<sub>2</sub>sat

( )

(

O<sub>2</sub>sat

B A

R

S

( )

( )

(2000, CDC U.S.A, WHO Switzerland

O<sub>2</sub>sat

(Nellcor Puritan Bennett, Pleasanton CA, USA)

O<sub>2</sub>sat

(B A )

S R

R / ± / S paired t-test

/ ± / S / ± /

S

R VBA Microsoft Access XP

O<sub>2</sub>sat (Microsoft corporation, version2002) SQL

S R

SPSS

O<sub>2</sub>sat (Version 11.5, 2002, ©SPSS Inc.)

R / α

S

Allocation

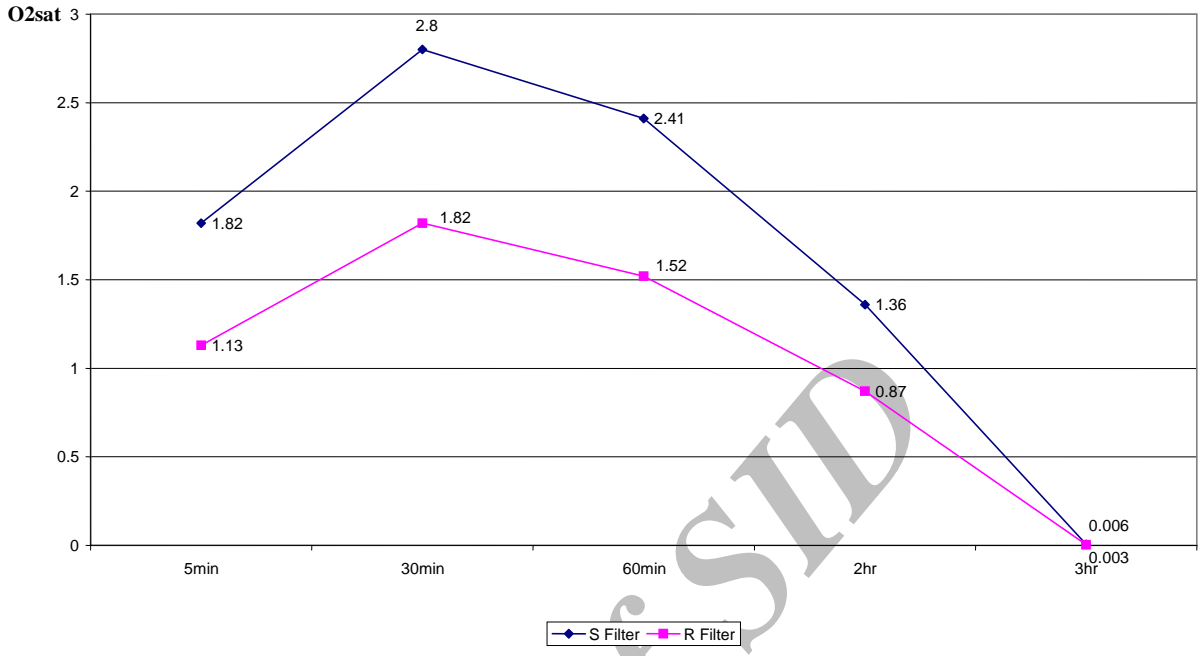
(P< / ) Version 6.04d - January ) EpiInfo

(S) (R)

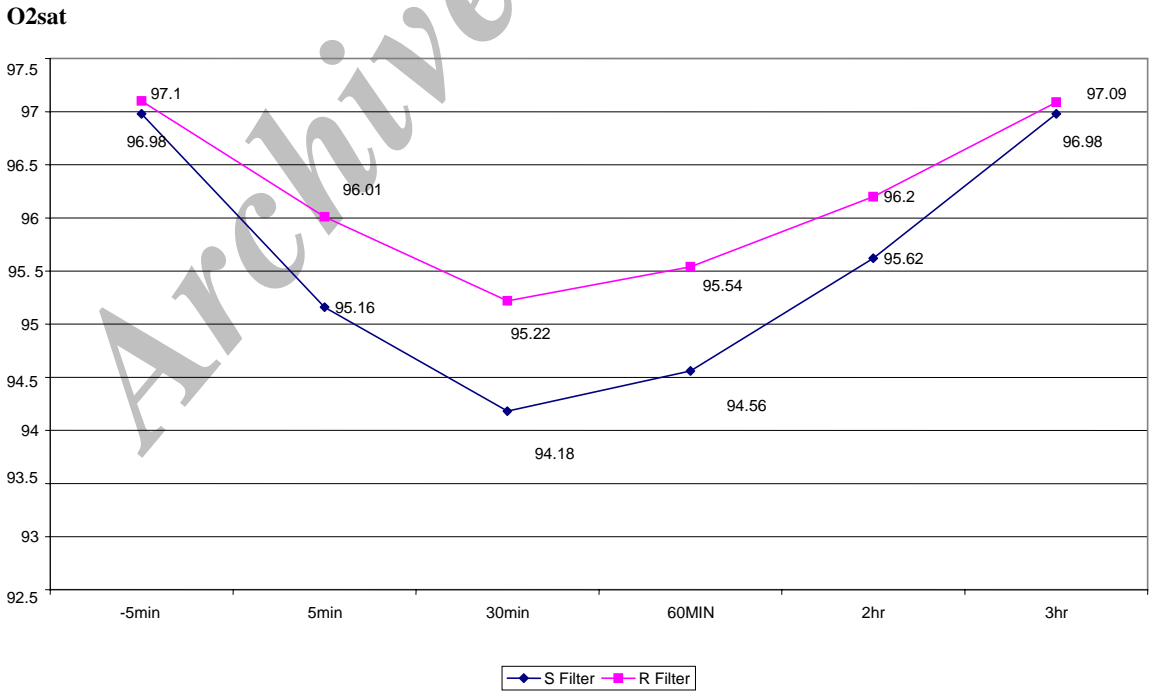
P value	t*	R,S	O <sub>2</sub> sat(%)	O <sub>2</sub> sat(%)	
/ < /	/	/	/	/	S
/ < /	/	/	/	/	R
/ < /	/	/	/	/	S
/ < /	/	/	/	/	R
/ < /	/	/	/	/	S
/ < /	/	/	/	/	R
NS**	/	/	/	/	S
					R

paired t-test

NS: not significant



(S) (R)



(S) (R)

( )

( )

S

( )

R

O<sub>2</sub>sat

( )

CO<sub>2</sub>

( )

O<sub>2</sub>sat

( )

( )

O<sub>2</sub>sat

( )

( )

( )

R

( )

**REFERENCES**

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1. Pierson DJ. Respiratory considerations in the patient with renal failure. *Respir Care* 2006; 51(4): 413-22.

2. Rodriguez-Roisin R, Barbera JA. Pulmonary complications of abdominal disease. In: Mason RJ, Broaddus VC, Murray JF, Nadel JA, editors. Murray and Nadel's textbook of respiratory medicine. Philadelphia: Elsevier Saunders. 2005; PP: 2223-41.
3. Craddock PR, Fehr J, Brigham KL, Kronenberg RS, Jacob HS. Complement and leukocyte-mediated pulmonary dysfunction in hemodialysis. *N Engl J Med* 1977; 296(14): 769-74.
4. Carlon GC, Campfield PB, Goldiner PL, Turnbull AD. Hypoxemia during hemodialysis. *Crit Care Med* 1979; 7(11): 497-9.
5. Patterson RW, Nissenson AR, Miller J, Smith RT, Narins RG, Sullivan SF. Hypoxemia and pulmonary gas exchange during hemodialysis. *J Appl Physiol* 1981; 50(2): 259-64.
6. Munger MA, Ateshkadi A, Cheung AK, Flaharty KK, Stoddard GJ, Marshall EH. Cardiopulmonary events during hemodialysis: effects of dialysis membranes and dialysate buffers. *Am J Kidney Dis* 2000; 36(1): 130-9.
7. Oh MS, Unibari J, Del monte ML. A mechanism of hypoxemia during hemodialysis: consumption of  $\text{CO}_2$  in metabolism of acetate. *Am J Nephrol* 1985; 5: 366-71.
8. Hunt JM, Chappell TR, Henrich WL, Rubin LJ. Gas exchange during dialysis. Contrasting mechanisms contributing to comparable alterations with acetate and bicarbonate buffers. *Am J Med* 1984; 77(2): 255-60.
9. Francos GC, Besarab A, Peters J, Tahamont MV, Gee MH, Flynn JT, Gzesh D. Dialysis-induced hypoxemia: membrane dependent and membrane independent causes. *Am J Kidney Dis* 1985; 5(3): 191-8.
10. Wiegmann TB, MacDougall ML, Diederich DA. Dialysis leukopenia, hypoxemia, and anaphylatoxin formation: effect of membrane, bath, and citrate anticoagulation. *Am J Kidney Dis* 1988; 11(5): 418-24.
11. Burhop KE, Johnson RJ, Simpson J, Chenoweth DE, Borgia J. Biocompatibility of hemodialysis membranes: evaluation in an ovine model. *J Lab Clin Med* 1993; 121(2): 276-93.
12. Thews O. Computer analysis of hypoxemia during hemodialysis. *Artif Organs* 1991; 15(6): 454- 61.
13. De Backer WA, Verpooten GA, Borgonjon DJ, Vermeire PA, Lins RR, De Broe ME. Hypoxemia during hemodialysis: Effects of different membranes and dialysate compositions. *Kidney Int* 1983; 23: 738-43.
14. de Vinuesa SG, Resano M, Luno J, Gonzalez C, Barril G, Junco E, Valderrabano F. Leucopenia, hypoxia and complement activation in hemodialysis. Three unrelated phenomena. *Proc Eur Dial Transplant Assoc* 1983; 19: 159-67.
15. Amato M, Salvadori M, Bergesio F, Messeri A, Filimberti E, Morfini M. Aspects of biocompatibility of two different dialysis membranes: Cuprophane and Polysulfone. *Int J Artif Organs* 1988; 11(3): 175-80.
16. Davidson WD, Dolan MJ, Whipp BJ, Weitzman RE, Wasserman K. Pathogenesis of dialysis-induced hypoxemia. *Artif Organs* 1982; 6(4): 406-9.
17. Daugirdas JT, Van Stone JC, Boag JT: Hemodialysis apparatus. In: Daugirdas JT, Blake PG, Ing TS. *Handbook of Dialysis*. 3<sup>rd</sup> ed. Philadelphia: Lippincott, Williams & Wilking. 2001; PP: 46-8.

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18. Rodriguez-Rosin R, Barbera JA. Pulmonary complication of abdominal disease in: Murray JF, Nadel JA, Masson RJ, Bushey HA, editors: Murray & Nadel's Textbook of Respiratory Medicine. Philadelphia: Saunders. 2000; PP: 2279-80.

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