

POSTTRAUMATIC STRESS DISORDER OF HEMODIALYSIS PATIENTS WITH MERS-COV EXPOSURE

Young-Ki Lee¹, Hong-Seock Lee², Ajin Cho¹, Jong-Woo Yoon¹, Hee Jung Jeon¹, Jung-Woo Noh¹, Yoo Jin Choi¹, Eun Ji Bae¹, Eun Yi Kim¹, Da-Wun Jeong³, Yang-Gyun Kim³, Sang-Ho Lee³, Chang-Hee Lee⁴, Kyung Don Yoo⁵

¹Hallym University College of Medicine, Internal Medicine, Seoul, ²Hallym University College of Medicine, Psychiatry, Seoul, ³Kyung Hee University at Kangdong, Internal Medicine, Seoul, ⁴Gangeung Medical Center, Anesthesiology, Gangeung, ⁵Dongguk University Medical Center, Internal Medicine, Gyeongju, KOREA

Introduction

- The outbreak of Middle East respiratory syndrome corona virus (MERS-CoV) was in Korea in 2015. A total of 186 people were infected, including one patient with maintenance hemodialysis (HD).
- Dialysis patients in three HD units were incidentally exposed to patients or health care workers with confirmed MERS-CoV infection. To interrupt the spread of MERS-CoV, they were isolated from community during outbreak.
- This study examined the occurrence rate of posttraumatic stress disorder (PTSD) and risk factors among HD patients with exposure to MERS-CoV.

Methods

- We studied 116 HD subjects who were exposed to MERS-CoV and isolated.
- A survey was conducted at 12 months after the isolation period.
- We used Korean versions of the Impact of Event Scale-Revised (IES-R) to examine PTSD (Table 1).
- Of the 116 HD patients, 76 (65.5%) respondents completed the questionnaires. Total IES-R scores above the cutoff of 18 suggest the individual is likely to have PTSD.

Table 1. Impact of Event Scale-Revised (IES-R)

	Not at all	A little bit	Moderately	Quite a bit	Extremely
1. Any reminder brought back feelings about it.	0	1	2	3	4
2. I had trouble staying asleep.	0	1	2	3	4
3. Other things kept making me think about it.	0	1	2	3	4
4. I felt irritable and angry.	0	1	2	3	4
5. I avoided letting myself get upset when I thought about it or was reminded of it	0	1	2	3	4
6. I thought about it when I didn't mean to.	0	1	2	3	4
7. I felt as if it hadn't happened or wasn't real..	0	1	2	3	4
8. I stayed away from reminders of it.	0	1	2	3	4
9. Pictures about it popped into my mind.	0	1	2	3	4
10. I was jumpy and easily startled.	0	1	2	3	4
11. I tried not to think about it.	0	1	2	3	4
12. I was aware that I still had a lot of feelings about it, but I didn't deal with them.	0	1	2	3	4
13. My feelings about it were kind of numb.	0	1	2	3	4
14. I found myself acting or feeling like I was back at that time.	0	1	2	3	4
15. I had trouble falling asleep.	0	1	2	3	4
16. I had waves of strong feelings about it.	0	1	2	3	4
17. I tried to remove it from my memory.	0	1	2	3	4
18. I had trouble concentrating.	0	1	2	3	4
19. Reminders of it caused me to have physical reactions, such as sweating, trouble breathing, nausea, or a pounding heart.	0	1	2	3	4
20. I had dreams about it.	0	1	2	3	4
21. I felt watchful and on-guard.	0	1	2	3	4
22. I tried not to talk about it.	0	1	2	3	4

Results

- In our study population, mean age was 62.4 years (30-86); 46 (60.5%) were men, 32 (42.1%) were diabetes.
- Isolation period from the exposure was 14.8±3.1 days (4-22). Hospitalized quarantine care was 40 (52.6%), cohort isolation was 28 (36.8%) and self-imposed quarantine was 8 (10.5%).
- Of the participants, 17 (22.4%) reported symptoms related to PTSD.
- Excluding hyperarousal, subscale scores such as avoidance, intrusion, sleep disturbance, emotional paralysis and dissociation increased after isolating experiences.
- Women and patients who had shorter duration of isolation were more likely to develop symptoms of PTSD. Types of isolation were not associated with PTSD (Table 2).

Table 2. Clinical characteristics according to PTSD

Variables	PTSD (+) (n=17)	PTSD (-) (n=59)	P- value
Age (years)	59.4±11.4	63.3 ± 13.3	0.356
Female (%)	58.3%	25.5%	0.026
HD duration (months)	47.2±46.4	62.1±62.6	0.439
Diabetes (%)	58.3%	43.6%	0.524
AVG (%)	16.7%	10.9%	0.775
Hospitalized quarantine or cohort isolation (%)	100%	85.5%	0.333
Interdialytic weight gain (kg)	2.5±0.9	2.0±1.2	0.194
Isolation period (days)	13.0±2.8	15.2±3.0	0.024
Systolic BP (mmHg)	148.7±18.8	141.9±18.1	0.247
Diastolic BP (mmHg)	70.6±17.3	72.2±12.3	0.711
Hemoglobin (g/dL)	10.9±1.6	10.5±1.5	0.444
Albumin (g/dL)	3.7±0.4	3.6±0.3	0.468
Calcium (mg/dL)	8.6±0.9	8.4±0.7	0.328
Phosphate (mg/dL)	5.9±2.1	5.9±5.4	0.998
Ca X P (mg ² /dL ²)	49.9±16.6	43.1±13.5	0.135
Total cholesterol (mg/dL)	129.7±64.5	123.2±63.3	0.784
Glucose (mg/dL)	140.0±56.0	143.2±45.6	0.882
Hba1c (%)	5.7±3.1	4.4±3.3	0.427
Single-pool Kt/V	1.6±0.2	1.5±0.3	0.321

Conclusion

- Many HD subjects that were exposed to MERS-CoV and isolated have suffered from PTSD in Korea.
- Isolation such as hospitalized quarantine care or cohort isolation is mandatory to prevent secondary transmission during outbreak, but we should pay more attention to their psychologic stress during isolation.

