

New-Onset Obstructive Sleep Apnea Following Immune Checkpoint Inhibitor Therapy

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증례 #1

- 62/M
- 수면 중 잦은 각성, 주간 피로/졸림증상 호소

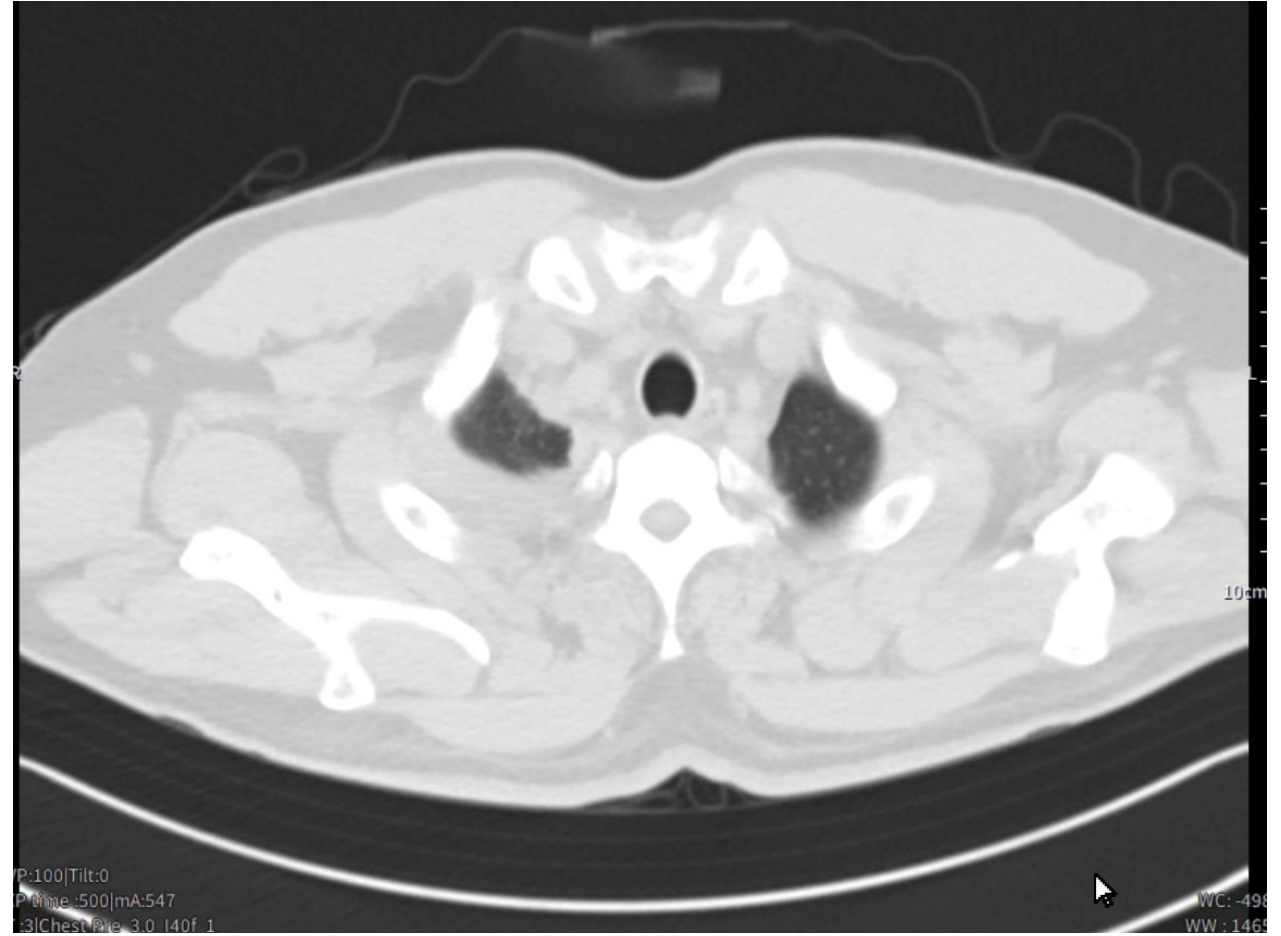
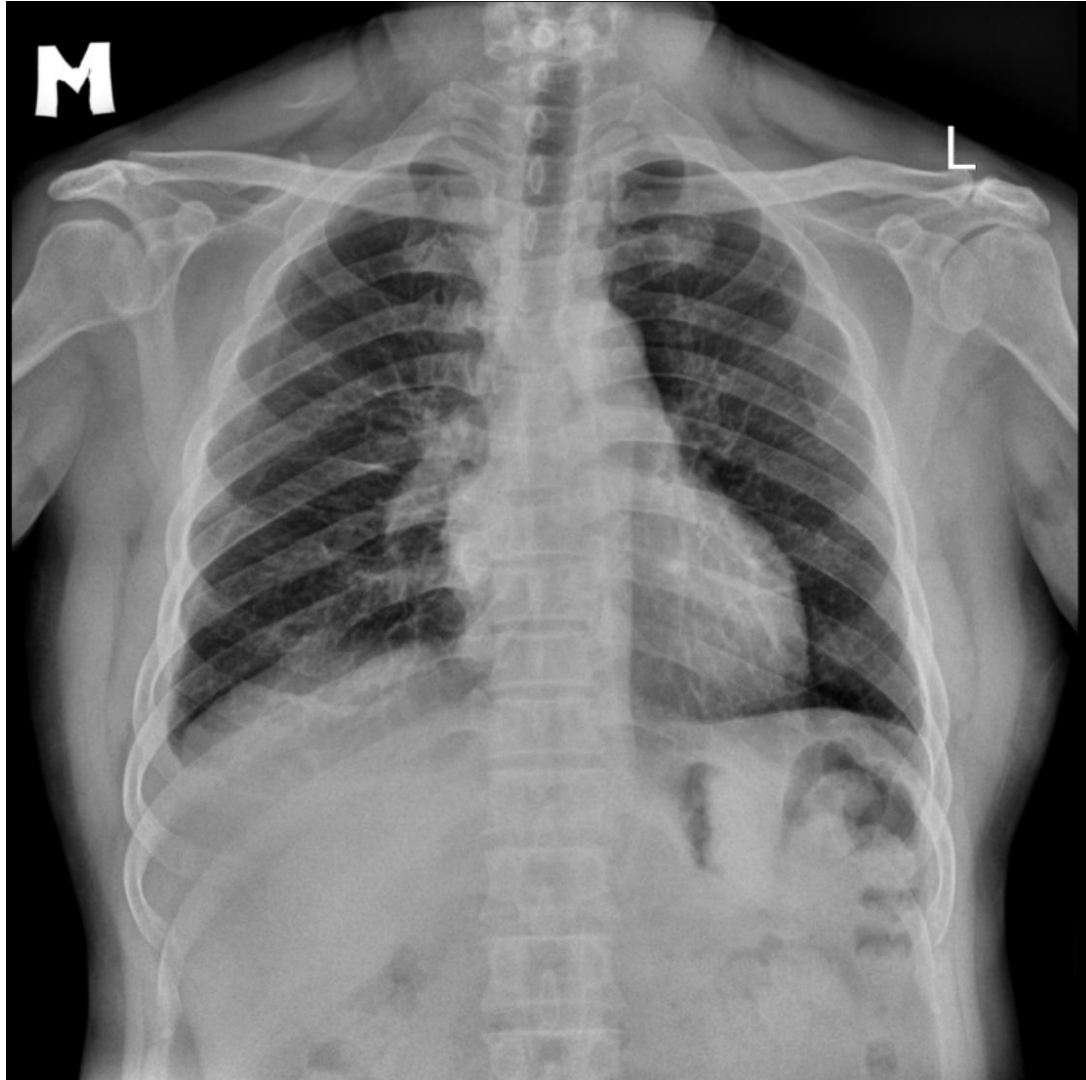
156cm, 76kg
BMI 31.2
- ESS score 11
- Asthma on Symbicort
HTN
s/p Tonsillectomy, Both (97")
- 1년전 폐암 (Lung adenocarcinoma, M1a) 진단 후 항암치료 유지중.

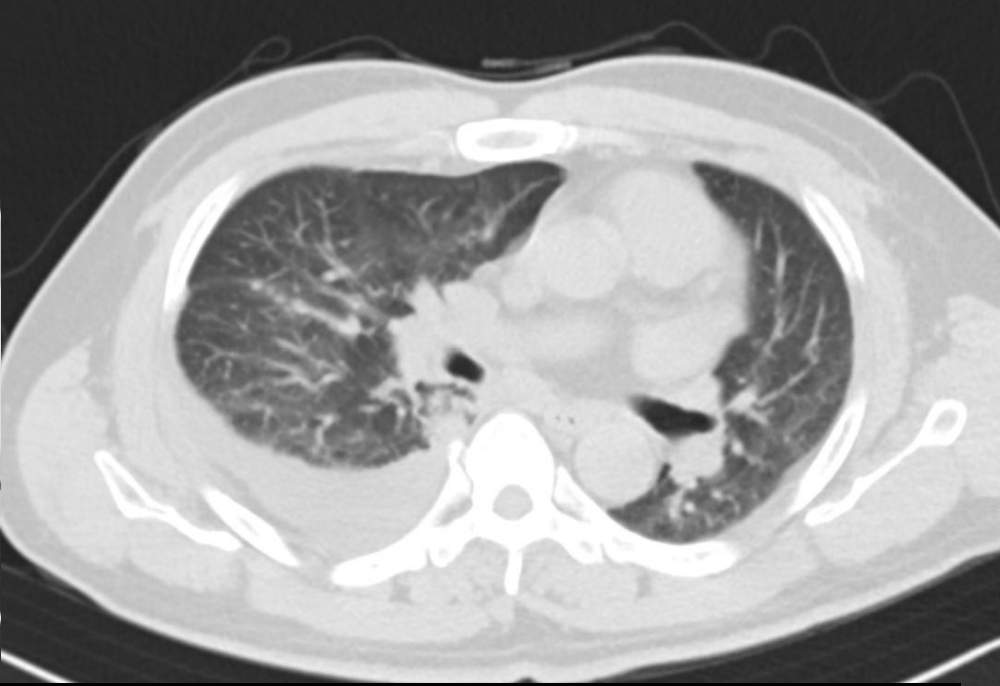
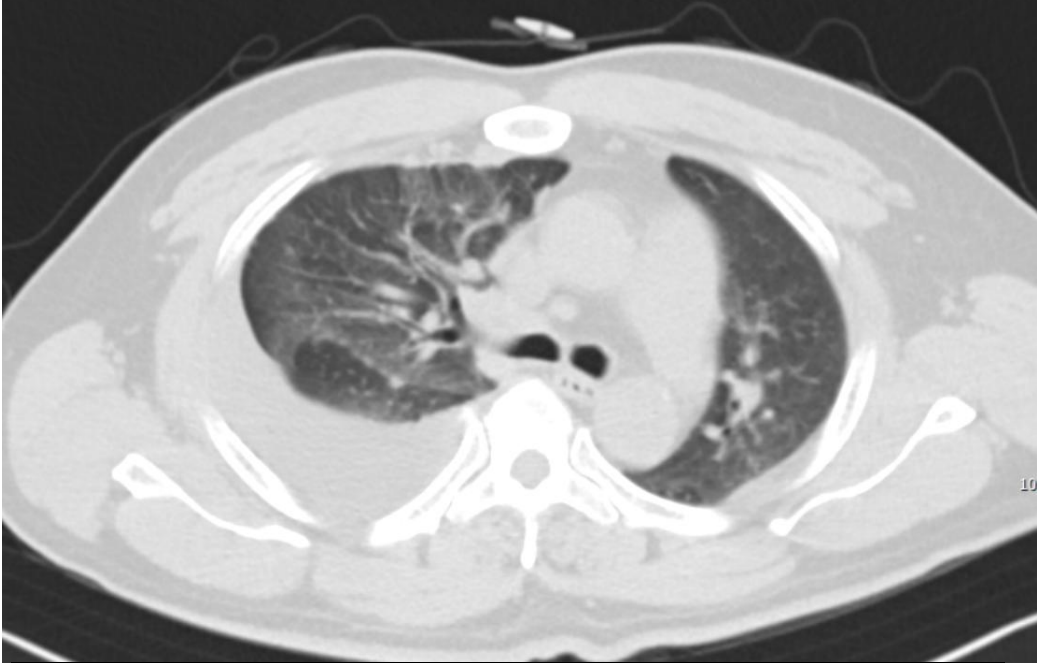
증례 #1

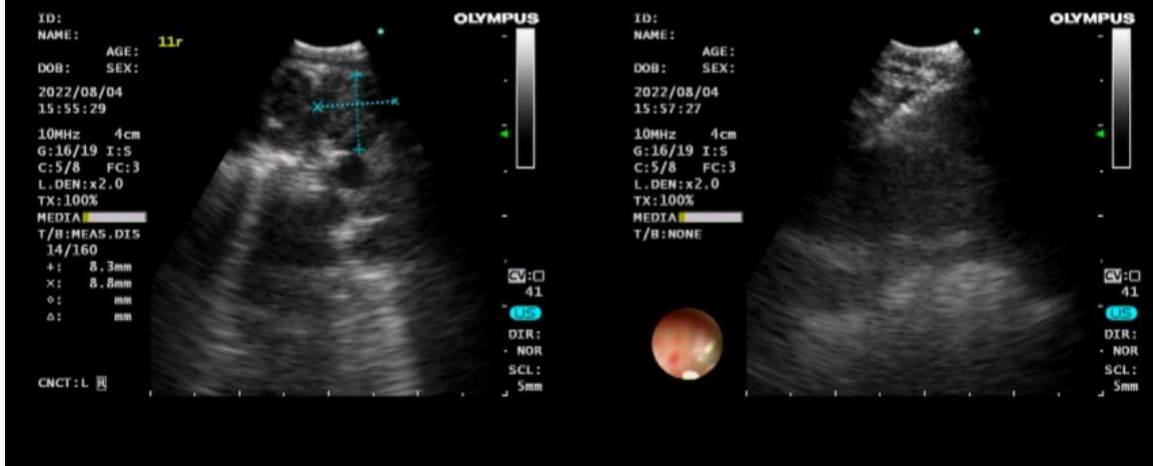
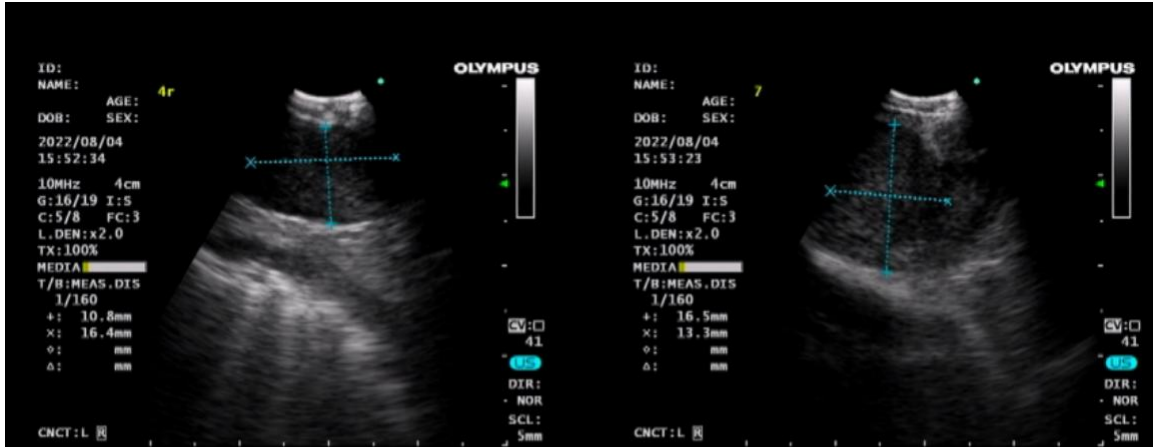
항목	결과	단위	참고범위
ESR	33	mm/h ▲	(1~20)
WBC	7.26	E9/L	(4.0~10.0)
RBC	3.66	E12/L ▼	(4.2~5.7)
Hb	12.2	g/dL ▼	(13.5~17.0)
Hct (Hematocrit)	36.2	% ▼	(40~53)
MCV	98.9	fL	(83~100)
MCH	33.5	pg	(26~34)
MCHC	33.8	g/dL	(31~37)
PLT (Platelet Count)	272	E9/L	(165~360)
MPV	7.2	fL	(6.4~9.7)
MPC	26.9	g/dL	(24.6~29.5)
Neutrophil %	46.8	%	(35~75)
Lymphocyte %	31.3	%	(25~40)
Monocyte %	7.2	%	(2~8)
Eosinophil %	11.5	% ▲	(.<7)
Basophil %	0.4	%	(.<3)
Large Unstained Cells %	2.8	%	(.<3)
Nucleated RBC %		%	(0~0)
Neutrophil Count	3.40	E9/L	(1.8~7.5)
Lymphocyte Count	2.27	E9/L	(1.0~2.8)
Monocyte Count	0.52	E9/L	(0.1~0.8)
Eosinophil Count	0.84	E9/L ▲	(0.05~0.30)
Basophil Count	0.03	E9/L	(.<0.20)
Nucleated RBC Flag			
Delta Neutrophil Index	0.0	%	(<2.6)
Mean Peroxidase Index	3.9	▲	(-3.0~3.0)
Blast %		%	(0~0)
Promyelocyte %		%	(0~0)
Myelocyte %		%	(0~0)
Metamyelocyte %		%	(0~0)
Band Neutrophil %		%	(.<6)
Aty. Lymphocyte %		%	(.<3)
Immature Cells %		%	(0~0)

검사명	결과치	단위	HL/D/P/I	참고범위(치)
CRP, Quantitative	0.70	mg/dL ▲		(<0.50)
Na (Sodium)	138	mmol/L		(136.0~145.0)
K (Potassium)	4.4	mmol/L		(3.5~5.1)
Cl (Chloride)	99	mmol/L		(98.0~107.0)
BUN	13.6	mg/dL		(5~19)
Cr (Creatinine)	1.81	mg/dL ▲		(0.20~1.30)
Glucose	70	mg/dL		(70~110)
Albumin	4.2	g/dL		(3.2~5.5)
AST (SGOT)	32	U/L		(.<40)
ALT (SGPT)	9	U/L		(.<40)
ALP	74	U/L		(.<135)
γ-GT	28	U/L		(.<60)
Total Bilirubin	0.76	mg/dL		(.<1.3)
Cal. Osmolality	284	mmol/kg		(280~295)
Calculated CCr(eGFR)	38.0	mL/min ▼		(65~.)
Hemolysis index	0			
Icterus index	0			
Lipemia index	0			
Rec) Procalcitonin				

- 2022.08 Dyspnea 주소로 응급실 내원







Specimen :

Lymph node, mediastinal, Aspiration Cytopathology(Paraffin Cell Block), Slide(7)

ALK protein, Napsin A, P40, PD-L1(면역조직(세포)화학검사), TTF-1, ROS1

Specimen adequacy : Satisfactory for evaluation

Cytological Diagnosis :

POSITIVE FOR MALIGNANCY
METASTATIC ADENOCARCINOMA

Comment :

* Note :

1. The immunohistochemical stains are diffuse strong positive for TTF-1 & napsin A and negative for p40, ALK protein & ROS1 in the tumor cells.
This finding is consistent with METASTATIC PULMONARY ADENOCARCINOMA.

2. result of immunohistochemical stain.

PD-L1 (SP263) : Negative.

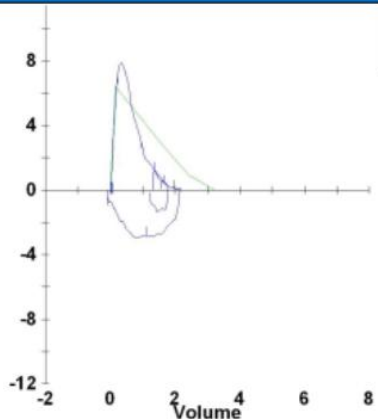
(No PD-L1 expression : Tumor proportion score < 1%).

* Percentage of PD-L1 stained viable tumor cells at each intensity.

(0: 100% 1+: 0% 2+: 0% 3+: 0% (Total % (=100%)).

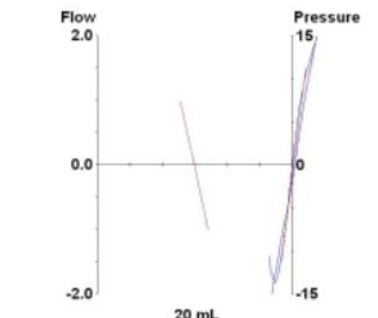
(Total %) : Sum of 0, 1+, 2+, and 3+ entires).

Labeled as No.4R lymph node.



Spirometry

		Ref	Pre Meas	Pre % Ref	Post Meas	Post % Ref	Post % Chg
FVC	Liters	3.24	2.16	67			
FEV1	Liters	2.37	1.69	71			
FEV1/FVC	%	73	78				
FEF25-75%	L/sec	2.59	1.38	53			
MVV	L/min	107					
FEV6	Liters		2.13				
PEF	L/sec	6.40	7.88	123			
Vol Extrap	Liters		0.05				
PIF	L/sec		2.98				



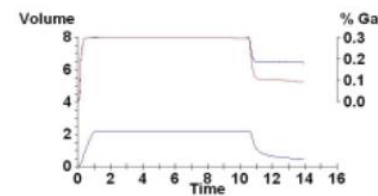
Lung Volumes

VC	Liters	3.24	2.42	75
TLC	Liters	4.48	3.08	69
RV	Liters	1.79	0.66	37
FRC PL	Liters	2.43	1.19	49
ERV	Liters	1.10	0.54	49
IC	Liters	2.19	1.88	86
Raw	cmH2O/L/sec	2.11	2.38	113
Vtg	Liters		1.87	
LVol Time			11:40	
RV/TLC	%	38	21	

Diffusion

DLCO	mL/mmHg/min	18.3	14.8	81
DL Adj	mL/mmHg/min	18.3	15.3	84
VA	Liters		3.48	
DLCO/VA	mL/mHg/min/L	3.74	4.27	114
DL/VA Adj	mL/mHg/min/L		4.40	
IVC	Liters		2.26	
DLCO Time			11:43	

Hb: 13.6



Comments :

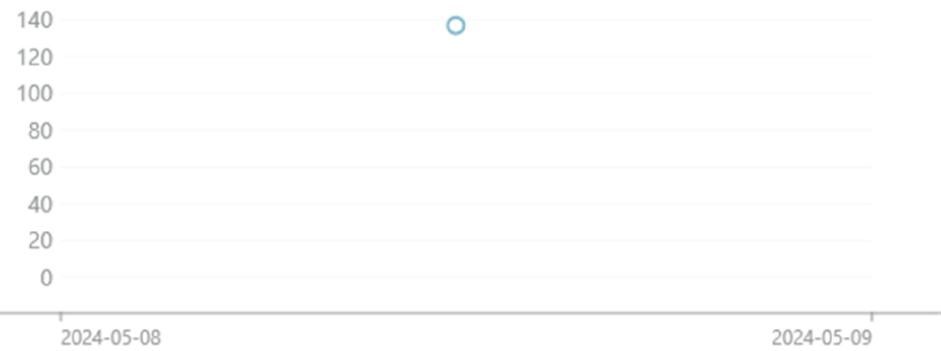
Interpretation :

There is no obstructive lung defect indicated by the FEV1/FVC ratio. There is a mild restrictive lung defect. Diffusion capacity is within normal limits.



NO report

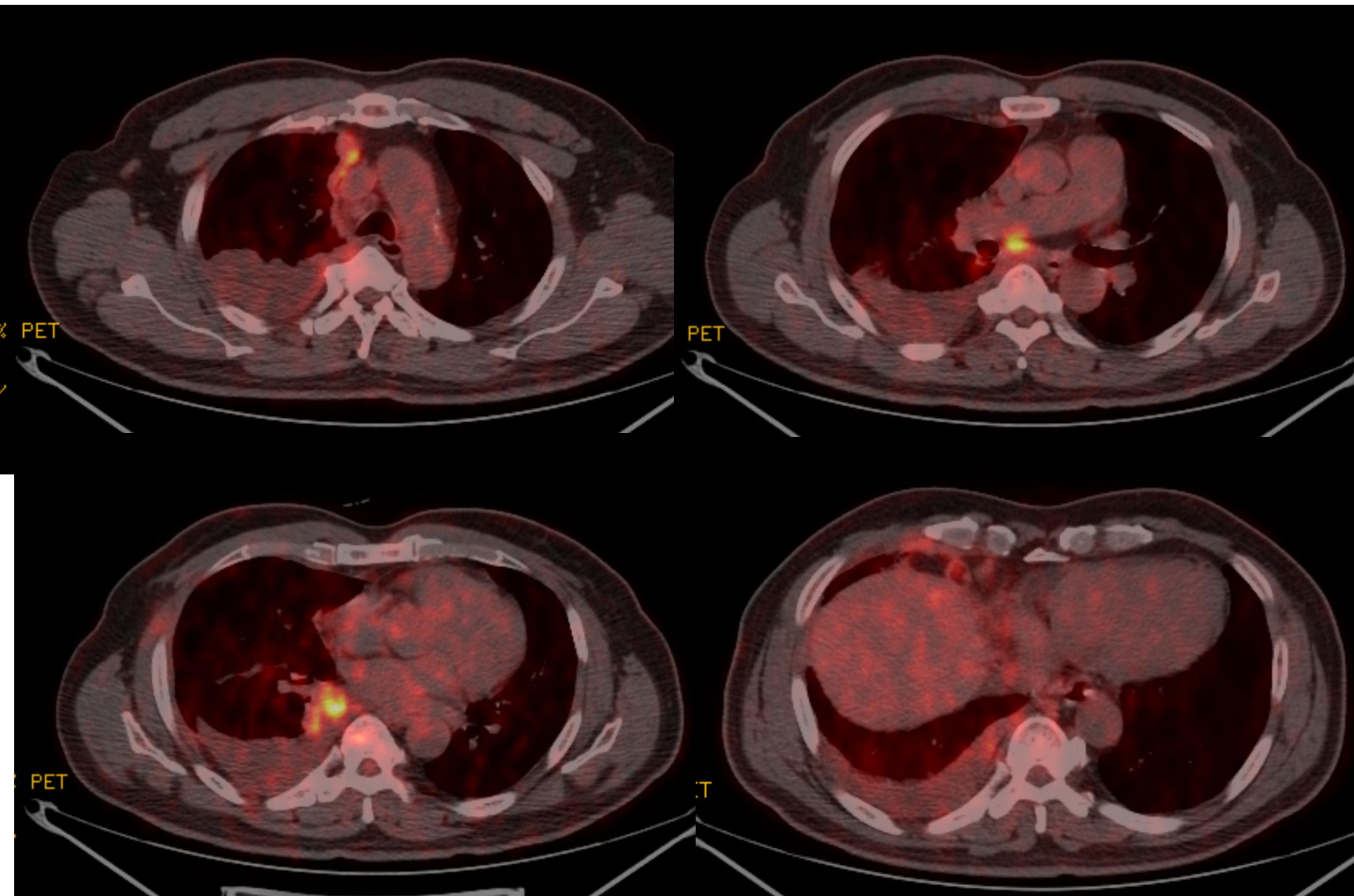
Patient Name: 김상열
 Patient Identity: 3968770
 Patient physician: PARK SUNMIN



Measurement table for measurement method FeNO

Date	NO-value	Mode	Comment	Signature
2024-05-08 오전 11:41	137	10s		

Reviewed by:	Date
	2024-05-08 오전 11:48:12



- C/W lung cancer - stage T2aN2M1 (LNs, pluera)

Lung cancer treatment Summary

- LCA(AD,RLL,cT1aN2M1c) M/Pleura, Rt internal mammary chain, Cardiophrenic angle
 - * N2: Subcarinal LN, Rt paratracheal LN
 - EGFR/ALK/ROS1/PD L1 -/-/-/0% s/p EBUS (2022.08.04)
- s/p #4 pembrolizumab-Pemetrexed-Cisplatin (22.08.25 - 10.27)
- s/p #27 Pembrolizumab - Pemetrexed (22.11.18 - 24.08.06)
23년 5월 수면다원검사 진행함.
- s/p ~ #22 Pemetrexed maintain (26.06.26)

Patient Information

Address: [REDACTED] Gender: Male
City: [REDACTED] Height: 1.56 m
Zip Code: [REDACTED] Weight: 76.0 kg
E-Mail: [REDACTED] BMI: 31.2
Phone: [REDACTED] ESS: 11
Serial Number: 3094

Sleep Summary

Total Recording Time:	396.8 minutes	Apnea + Hypopnea (A+H):	316	82.1 / h
Sleep Period:	381.3 minutes	Obstructive Apnea:	192	49.9 / h
Wake After Sleep Onset:	149.8 minutes	Central Apnea:	4	1.0 / h
Total Sleep Time:	231.5 minutes	Mixed Apnea:	52	13.5 / h
Sleep Onset:	15.6 minutes	Hypopnea (All)	68	17.7 / h
Sleep Efficiency:	58.3 %	Obstructive Hypopnea:	-	-
Number of Awakenings:	74	Central Hypopnea:	-	-
Sleep Latency to N1:	15.6 minutes	Mixed Hypopnea:	-	-
Sleep Latency to N2:	32.6 minutes	RDI:	82.1	
Sleep Latency to N3 (SWS):	0.0 minutes	Oxygen Desaturation Events (OD):	288	74.8 / h
Stage R Latency from Sleep Onset:	87.5 minutes	Snore Time:	31.2 minutes	13.5 %
		Limb Movement:	-	- / h
		PLMS:	-	- / h

Position Statistics

Position	Index time [minutes]	Relative [%]	Transitions	A+H/h
Supine	231.0	100.0		82.1
Left	0.0	0.0		-
Prone	0.0	0.0		-
Right	0.0	0.0		-
Upright	0.0	0.0		-
Unknown	0.0	0.0		-
Total	231.0	100.0	2 (0.5/h)	

Scoring Information

Scorer Name: 정성화
Scoring Palette: Sleep Scoring
Comments:

Scoring Date: 2023-05-20 오전

Comments

[Diagnosis]
Severe obstructive sleep apnea, Adult (ICSD3)

[Recommendations]
Titrated CPAP therapy
Weight reduction

Summary Statement

Findings related to sleep diagnoses:

This is a baseline polysomnogram. The findings are consistent with obstructive sleep apnea (AHI=82.1) with desaturation (nadir SaO2=64%), nearly exclusively in the form of OSA.

EEG Abnormalities:

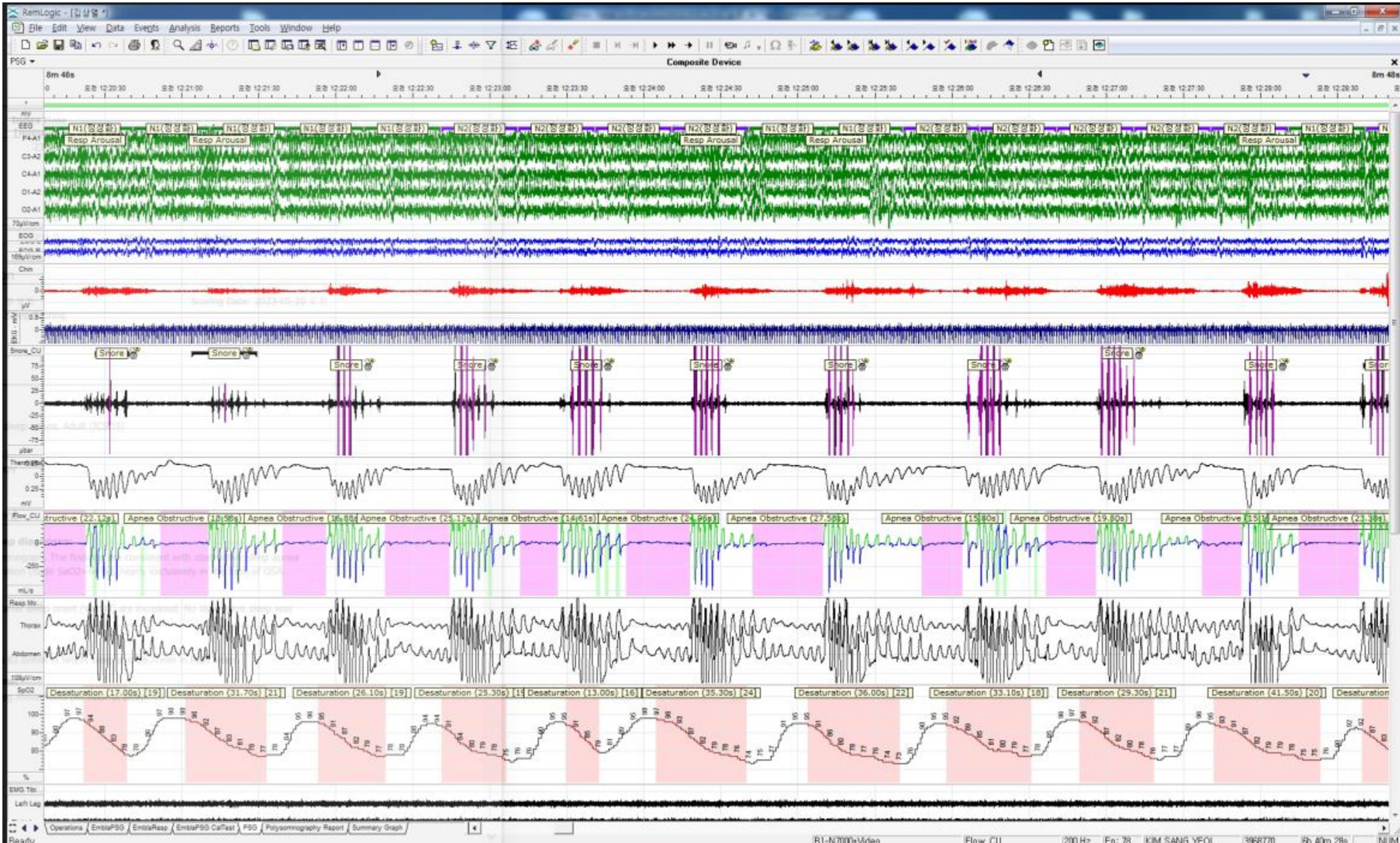
Stage 1 sleep and wake after sleep onset (WASO) are increased. No slow-wave sleep was recorded.

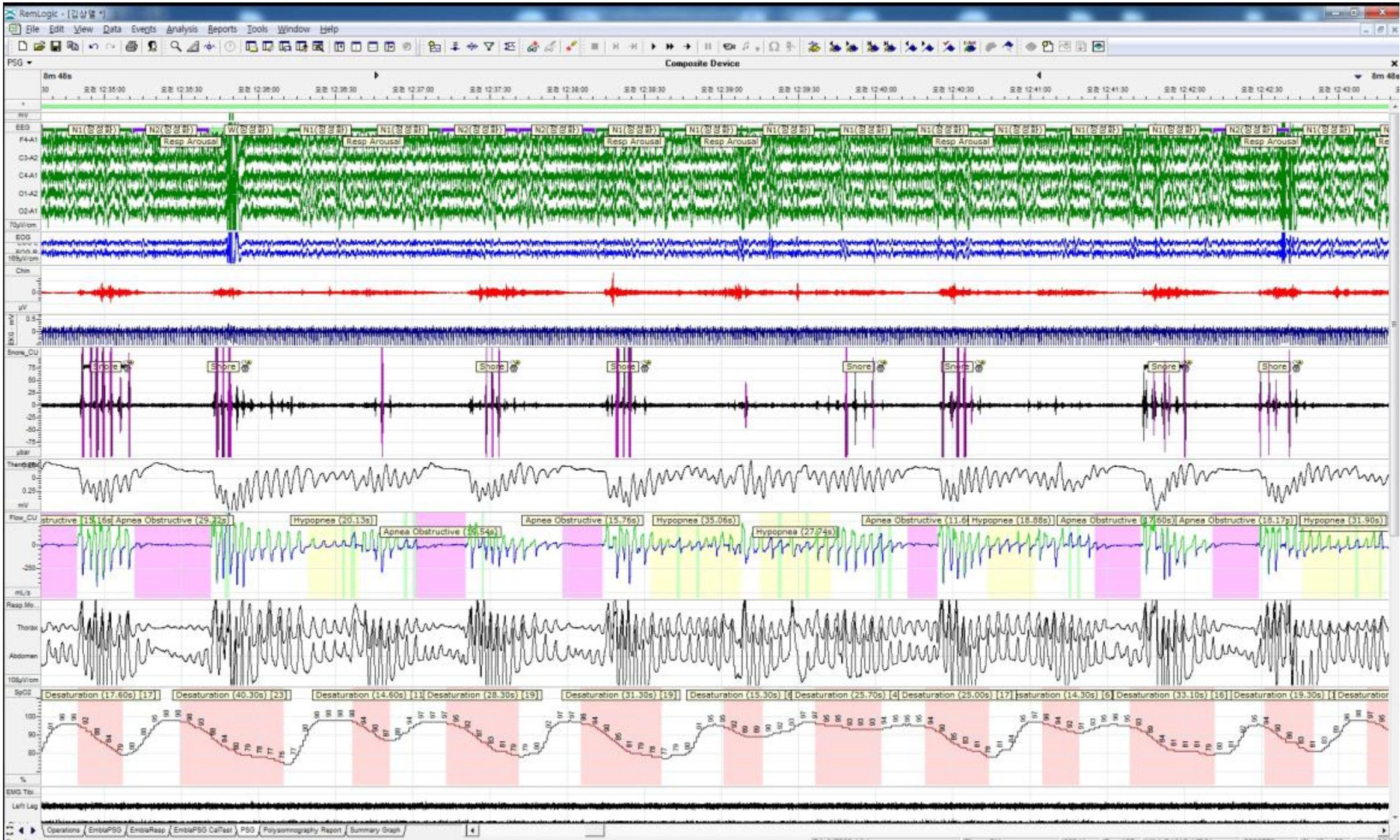
ECG Abnormalities:

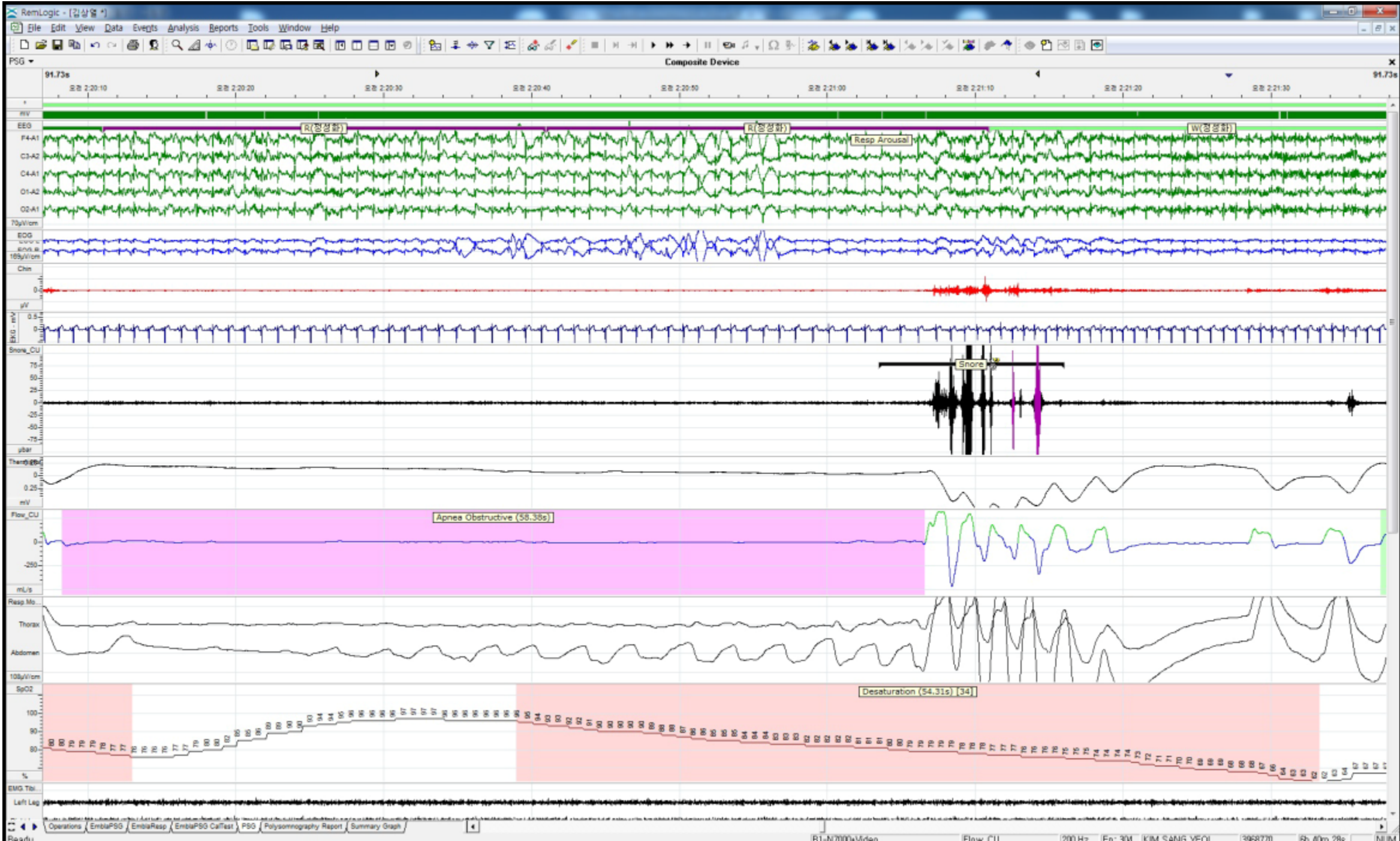
The usual heart rate was 61.0/min in NREM sleep and 59.7/min in REM sleep.

Behavioral Observations:

There were no periodic leg movements per hour of sleep.

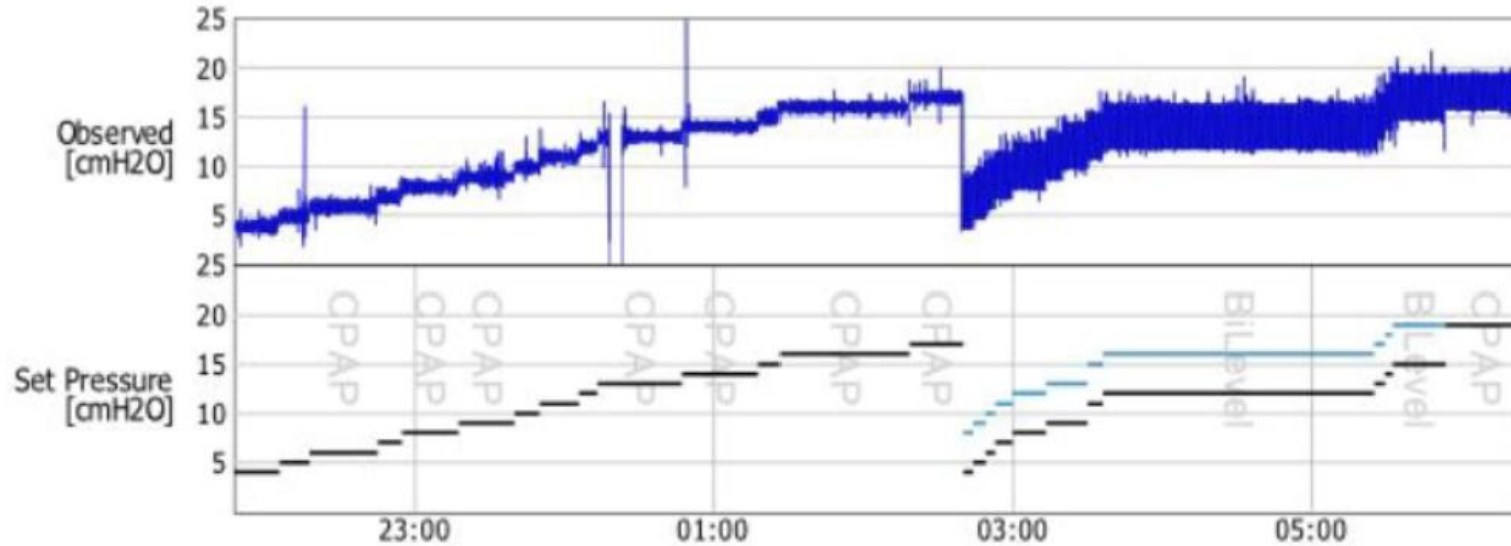






PAP titration 23.09.04

PAP Statistics



Statistics CPAP / APAP

Median Pressure: 13.7 cmH2O
Maximum Pressure: 20.0 cmH2O

95% Pressure: 17.3 cmH2O

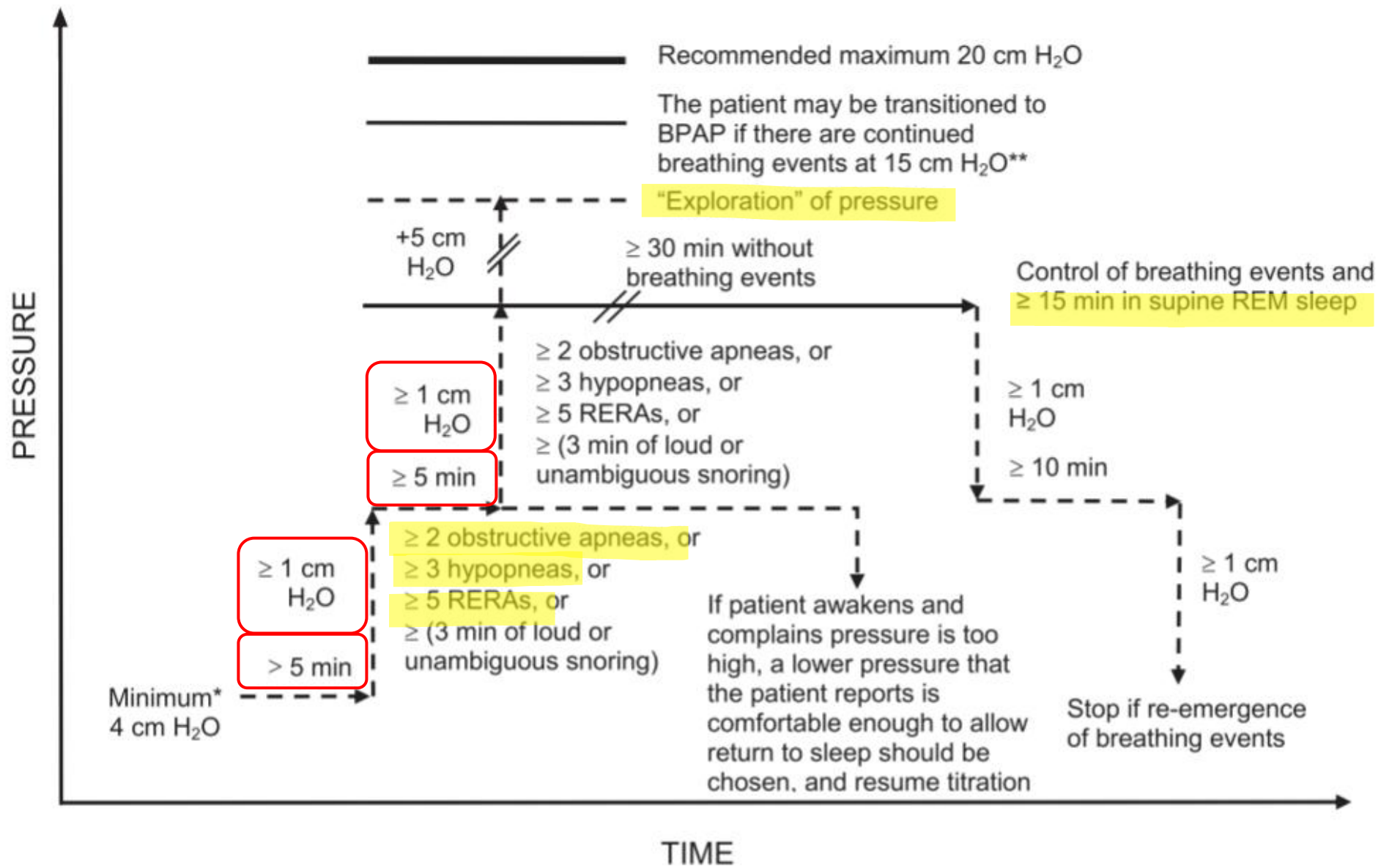


Figure 2—CPAP Titration Algorithm for Patients ≥ 12 years During Full- or Split-Night Titration Studies. Note: Upward titration

Titration Statistics

Device Mode	Pressure /cmH2O	Duration /min	OA #	CA #	MA #	All H #	AHI /h	RERA #	All Resp #	RDI /h	SpO2 Min %	SpO2 Mean %
CPAP	Full face mask M size											
CPAP	Heating lv 4.0											
CPAP	CPAP 17.0cmH2O에서 지속적으로 obstructive respiratory event 관찰되어 BPAP 전환함											
CPAP	복부팽만감(-), 가슴답답함(-)											
CPAP	바람이 강하게 느껴졌지만, 숨 쉬는게 불편하지 않다고 함											
CPAP	입이 많이 마르고, 몸에 한기가 든다고 함											
CPAP	-----											
CPAP	[Recommendations]											
CPAP	Apply IPAP 19.0 cmH2O / EPAP 15.0 cmH2O of BPAP (EPR level 3.0) with a nasal mask											
CPAP	(Optimal PAP titration)											
CPAP	15.0	52.0	-	-	-	18	24	-	18	24	92	96
CPAP	16.0	52.0	-	-	-	18	24	-	18	24	92	96
CPAP	17.0	21.5	-	-	-	14	48	-	14	48	94	97
BiLevel	8.0/4.0	4.1	-	-	-	4	77	-	4	77	90	95
BiLevel	9.0/5.0	5.0	-	-	-	5	101	-	5	101	91	95
BiLevel	10.0/6.0	4.0	-	-	-	4	60	-	4	60	90	94
BiLevel	11.0/7.0	6.8	-	-	-	4	35	-	4	35	91	94
BiLevel	12.0/8.0	13.6	-	-	-	8	35	-	8	35	91	95
BiLevel	13.0/9.0	16.6	-	-	-	8	33	-	8	33	91	96
BiLevel	15.0/11.0	6.2	-	-	-	-	-	-	-	-	93	96
BiLevel	16.0/12.0	109.2	1	-	-	27	18	-	28	18	86	96
BiLevel	17.0/13.0	4.3	-	-	-	2	28	-	2	28	90	95
BiLevel	18.0/14.0	2.9	-	-	-	-	-	-	-	-	91	96
BiLevel	19.0/15.0	21.2	-	-	-	-	-	-	-	-	91	97
CPAP	19.0	31.7	-	-	-	1	2	-	1	2	94	97

Device Mode	Pressure /cmH2O	TST /min	REM /min	Non-REM /min	Wake /min	Arousal #	Arousal /h	LM/RR LM #	LM/RR LM /h	PLM #	PLM /h
CPAP	0.0	0.0	0.0	0.0	0.0	-	-	-	-	-	-
CPAP	4.0	6.2	0.0	6.2	12.5	2	19	-	-	-	-
CPAP	5.0	7.8	0.0	7.8	4.3	4	31	-	-	-	-
CPAP	6.0	11.0	0.0	11.0	16.4	14	76	-	-	-	-
CPAP	7.0	8.3	0.0	8.3	1.2	5	36	-	-	-	-
CPAP	8.0	20.5	1.9	18.7	2.5	9	26	-	-	-	-
CPAP	9.0	8.2	3.1	5.0	14.0	5	37	-	-	-	-
CPAP	10.0	9.3	0.0	9.3	1.0	2	13	-	-	-	-
CPAP	11.0	14.7	7.0	7.7	1.0	6	25	-	-	-	-
CPAP	12.0	4.1	2.6	1.5	3.5	3	44	-	-	-	-
CPAP	13.0	9.1	3.9	5.2	25.0	5	33	-	-	-	-
CPAP	14.0	26.3	1.0	25.3	4.0	8	18	-	-	-	-
CPAP	15.0	5.4	0.0	5.4	3.0	6	66	-	-	-	-
CPAP	16.0	44.5	13.0	31.5	7.5	16	22	-	-	-	-
CPAP	17.0	17.5	10.5	6.9	4.0	15	52	-	-	-	-
BiLevel	8.0/4.0	3.1	0.0	3.1	1.0	3	58	-	-	-	-
BiLevel	9.0/5.0	3.0	0.0	3.0	2.0	4	81	-	-	-	-
BiLevel	10.0/6.0	4.0	0.0	4.0	0.0	1	15	-	-	-	-
BiLevel	11.0/7.0	6.8	0.0	6.8	0.0	-	-	-	-	-	-
BiLevel	12.0/8.0	13.6	0.0	13.6	0.0	1	4	-	-	-	-
BiLevel	13.0/9.0	14.6	8.0	6.6	2.0	6	25	-	-	-	-
BiLevel	15.0/11.0	5.7	5.2	0.5	0.5	2	21	-	-	-	-
BiLevel	16.0/12.0	93.2	23.7	69.5	16.0	39	25	-	-	-	-
BiLevel	17.0/13.0	4.3	4.3	0.0	0.0	2	28	-	-	-	-
BiLevel	18.0/14.0	2.9	2.9	0.0	0.0	2	41	-	-	-	-
BiLevel	19.0/15.0	20.7	20.7	0.0	0.5	3	9	-	-	-	-
CPAP	19.0	26.6	10.6	16.0	5.1	9	20	-	-	-	-

SpO2 Statistics

Mean Oxygen Saturation:	95.7 %	Saturation < 90%:	2.6 minutes	0.7 %
Lowest Oxygen Saturation:	82.0 %	Saturation < 80%:	-	- %
Average Desaturation:	5.0 %	Saturation < 70%:	-	- %

Average Oxygen Saturation during wake: 96.1 %

Average Oxygen Saturation during REM: 96.0 %

순응도 보고서

사용량 2023/09/25 - 2023/10/06

사용 일 수	7/12 일 (58%)
>= 4 시간	7 일 (58%)
< 4 시간	0 일 (0%)
사용 시간	46 시간 45 분
평균 사용 (총 일 수)	3 시간 54 분
평균 사용 (사용 일 수)	6 시간 41 분
사용 중간값 (사용 일 수)	6 시간 47 분
총 사용 시간 (마지막 리셋 이래의 값 - 2023/10/06)	46 시간

AirCurve 10 VAuto 24.11 Bilevel PAP : 12 / 17

일련번호	22211289066
모드	VAuto
최대 IPAP	19 cmH2O
최소 EPAP	15 cmH2O
압력 서포트	4 cmH2O

치료

누출 - L/min	중간값: 8.4	제95위 백분위수: 28.6	최대: 43.5
시간당 이벤트	AI: 0.2	HI: 0.0	AHI: 0.2
무호흡 지수	중앙: 0.0	폐쇄성: 0.0	알 수 없음: 0.2

2023-10-16 - 2023-10-30 Device: AirCurve 10 VAuto (S/N: 22211289066)

Device Settings		
Therapy Mode: VAuto	Ramp Enable: ON	Ramp Time: 40.0 Minutes
Essentials: ON	Pressure Support: 4.0 cmH2O	Min EPAP: 15.0 cmH2O
Max IPAP: 19.0 cmH2O	Ti Max: 0.8 sec	Ti Min: 0.3 sec
IPAP - cmH2O		
Median: 19.0	95th Percentile: 19.0	Maximum: 19.0
EPAP - cmH2O		
Median: 15.0	95th Percentile: 15.0	Maximum: 15.0
Leak - L/min		
Median: 1.2	95th Percentile: 12.0	Maximum: 20.4
Tidal Volume - mL		
Median: 380	95th Percentile: 500	Maximum: 760
Minute Ventilation - L/min		
Median: 7.9	95th Percentile: 11.0	Maximum: 19.5
Respiratory Rate - breaths/min		
Median: 20	95th Percentile: 25	Maximum: 32
% Spontaneous cycled breaths: 8		
Respiratory Indices - events/hr		
Apnea Index: 0.0	Hypopnea Index: 0.0	AHI: 0.0
Obstructive: 0.0	Central: 0.0	Unknown: 0.0
Total Usage		
Used Days >= 4 hrs : 15	Used Days < 4 hrs : 0	% Used Days >= 4 hrs : 100
Days not used: 0	Total days: 15	Total hours used: 105:35
Median daily usage: 7:06	Average daily usage: 7:02	
I:E Ratio		
Median: 1:2.78	95th Percentile: 1:2.13	Maximum: 1:1.75

순응도 보고서

사용량		2023/10/31 - 2023/12/11
사용 일 수		35/42 일 (83%)
>= 4 시간		28 일 (67%)
< 4 시간		7 일 (17%)
사용 시간		193 시간 54 분
평균 사용 (총 일 수)		4 시간 37 분
평균 사용 (사용 일 수)		5 시간 32 분
사용 중간값 (사용 일 수)		5 시간 55 분
총 사용 시간 (마지막 리셋 이래의 값 - 2023/12/11)		343 시간

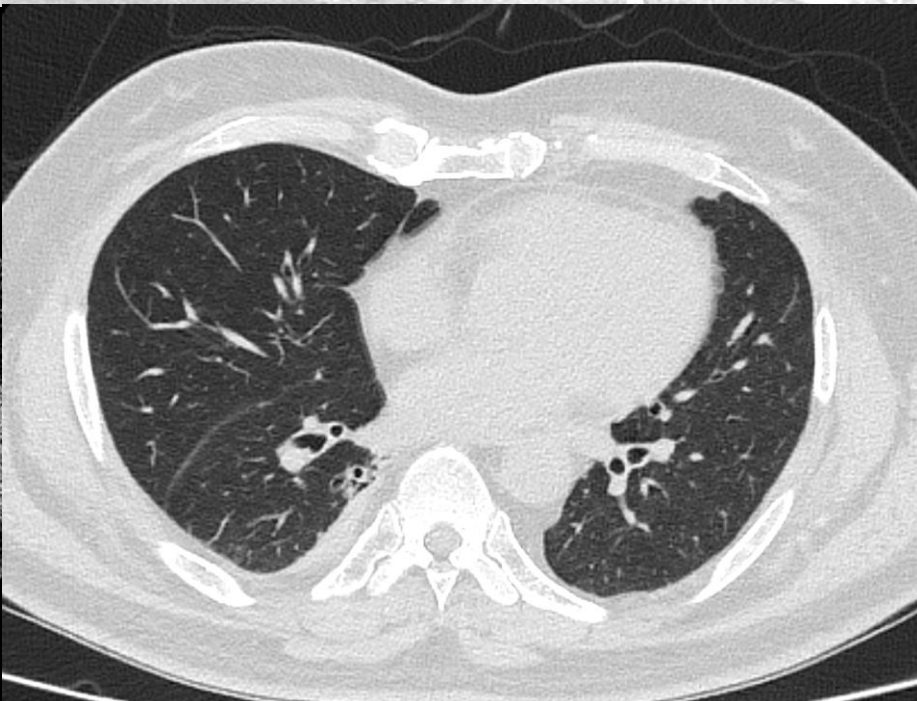
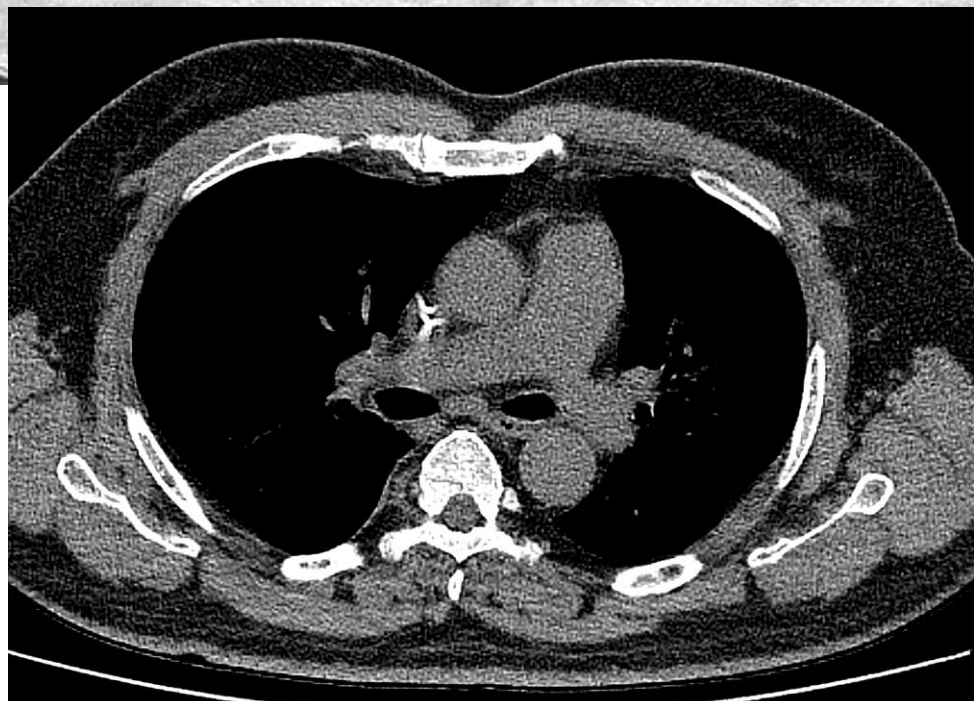
AirCurve 10 VAuto	
일련번호	22211289066
모드	VAuto
최대 IPAP	19 cmH2O
최소 EPAP	15 cmH2O
압력 서포트	4 cmH2O

치료				
누출 - L/min	중간값: 43.8	제95위 백분위수: 80.2	최대: 93.4	
시간당 이벤트	AI: 2.8	HI: 0.0	AHI: 2.8	
무호흡 지수	중앙: 0.1	폐쇄성: 0.0	알 수 없음: 2.7	

2023-12-12 - 2024-03-04		Device: AirCurve 10 VAuto (S/N: 22211289066)
Device Settings		
Therapy Mode: VAuto	Ramp Enable: ON	Ramp Time: 40.0 Minutes
Essentials: ON	Pressure Support: 4.0 cmH2O	Min EPAP: 15.0 cmH2O
Max IPAP: 19.0 cmH2O	Ti Max: 0.8 sec	Ti Min: 0.3 sec
IPAP - cmH2O		
Median: 19.0	95th Percentile: 19.0	Maximum: 19.0
EPAP - cmH2O		
Median: 15.0	95th Percentile: 15.0	Maximum: 15.0
Leak - L/min		
Median: 2.4	95th Percentile: 30.0	Maximum: 54.0
Tidal Volume - mL		
Median: 360	95th Percentile: 500	Maximum: 760
Minute Ventilation - L/min		
Median: 8.1	95th Percentile: 11.4	Maximum: 17.9
Respiratory Rate - breaths/min		
Median: 21	95th Percentile: 26	Maximum: 32
% Spontaneous cycled breaths: 13		
Respiratory Indices - events/hr		
Apnea Index: 0.1	Hypopnea Index: 0.1	AHI: 0.2
Obstructive: 0.0	Central: 0.0	Unknown: 0.0
Total Usage		
Used Days >= 4 hrs : 73	Used Days < 4 hrs : 4	% Used Days >= 4 hrs : 86
Days not used: 7	Total days: 84	Total hours used: 480:59
Median daily usage: 6:25	Average daily usage: 5:43	
I:E Ratio		
Median: 1:2.63	95th Percentile: 1:1.92	Maximum: 1:1.45

PAP treatment summary

- 23.09 PAP titration
- Bilevel PAP; EPAP15 / IPAP 19
→ 4시간 이상사용 58%, residual AHI 0.2
** 23.10 COVID respiratory failure로 입원치료
- 23.12 → 4시간 이상사용 67%, residual AHI 2.8
** Both leg weakness로 입원, R/O Guillain-Barré Syndrome
- 24.03 → 4시간 이상사용 86%, residual AHI 0.2
- 24.05 → 4시간 이상사용 84%, residual AHI 2.6
- 24.07 → 4시간 이상사용 96%, residual AHI 2.2
- 25.01 → 4시간 이상사용 88%, residual AHI 4.4
Bilevel PAP : 11 / 18
- 26.02 → 4시간 이상사용 100%, residual AHI 0.2
- 26.05 → 4시간 이상사용 97%, residual AHI 0.1



SN		수면다원검사 결과지(Polysomnogram Report)								
병원번호	3968770	성명	김상열	시행일	2016/02/15	Physician requesting evaluation	박동준	Study Type	<input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III <input type="checkbox"/> IV	
Indication		<input checked="" type="checkbox"/> SRBDs <input type="checkbox"/> Hypersomnias <input type="checkbox"/> Parasomnias <input type="checkbox"/> SRMDs <input type="checkbox"/> Insomnias								
Sleep Architecture		Sleep Stages			Minutes		% of TST			
Total Recording Time (min)	564.3	Wake (2-5%)			199.3		34.4			
Total Sleep Time (min)	365.0	NREM Sleep			281.0		77.0			
% Sleep Efficiency	64.7	Stage 1 Sleep (3-8%)			52.5		14.4			
Sleep Latency (min)	8.0	Stage 2 Sleep (44-55%)			228.5		62.6			
Stage R Latency (min)	88.0	Stage 3/4 Sleep (10-15%)			0.0		-			
		REM Sleep (20-25%)			84.0		23.0			
Respiratory Events		NREM		REM		Supine		Lateral		Total
Total Sleep Time (min)	281.0		84.0		297.0		68.0		365.0	
Obstructive Apneas (/hr)	0.0		0.0		0.0		0.0		0.0	
Mixed Apneas (/hr)	0.0		0.0		0.0		0.0		0.0	
Central Apneas (/hr)	0.0		0.0		0.0		0.0		0.0	
Hypopneas (/hr)	15.7		27.9		22.8		0.0		18.5	
RERA (/hr)	22.3		16.5		23.6		8.8		21.0	
Baseline % SaO ₂	95.5				A/H		PLM		Total	
Minimum % SaO ₂	89.0		Arousal		11.4		-		32.4	
EEG & Sleep Stage Analysis		Respiratory event는 hypopnea 위주로 나타나며 supine sleep에서 무세하게 나타남, dBOI 높은 코골이가 지속적으로 나타남.								
EKG & Leg Movement Analysis		Nothing								
Interpretation		This is a baseline polysomnogram. The findings are consistent with moderate obstructive sleep apnea (FDI=39.5) with desaturation (nadir SaO ₂ =89.0%), exclusively in the form of hypopnea and RERA.								
판독의		Sang-Ha Kim M.D. 김상하								

2016 코골이로 ENT→ PSG검사
 157cm 68kg BMI 27.58

: Hypopnea:15.7

Apnea : 0

증례 #2.

• 63/M

과도한 주간 졸림,
피로감으로 내원.

• 173cm, 80.0kg BMI 26.7

• ESS 19

1. 급여 대상

1) 수면무호흡증: 가),나) 또는 가),다)의 조건을 만족하는 경우

- 가) 주간졸림증 빈번한 코골이
수면 무호흡 피로감
수면 중 숨 막힘 수면 중 잦은 뒤척임
수면 중 잦은 각성

나) Modified Mallampatti score grade 3이상 I II III IV
후두 기관 내 삼관이 어려울 때 평가

Friedman 병기 분류에 따른 편도 크기 I II III IV
grade2(≥만13세)/grade 3(<만13세)이상

내시경검사를 이용한 Muller maneuver 상 있음 없음
상기도 폐쇄 소견 확인

- 다) 고혈압/ 심장질환/ 뇌혈관질환/ 당뇨 기왕력
BMI 30kg/m² 이상 ; 결과 () kg/m²

2) 기면증 또는 특발성 과다수면증: 가),나) 또는 가),다)의 조건을 만족하는 경우

가) Epworth Sleepiness Scale 10 이상

나) 과도한 주간졸림증, 허탈발작 동반

다) 주간졸림으로 일상생활 불편 초래: 하루 7시간 수면, 3개월 이상 지속

Lung cancer treatment summary

- LCA(Adeno Ca,LUL,cT4N2M0, stage3)
 - * N2: aortic arch and proximal Lt subclavian a,invasion paraaortic LN
 - PD-L1/EGFR/ALK/ROS1 (1%/-/-/-)
- s/p CT NAB, LUL (2025.4.22): suspicious for adenocarcinoma
- s/p R-EBUS TBLB, LUL (2025.4.24): pending
- s/p CCRT (25.05.21-25.07.16)
- s/p 1st Pemetrexed - CDDP 90/90% (25.05.21)
- s/p 2nd Pemetrexed - CDDP 90/80% (25.06.11)
- s/p 3rd Pemetrexed - CDDP 90/75% (25.07.07)
- on Durvalumab consolidation therapy (25.07.28 ~ 26.06.29)

OSA on CPAP 9mmHg

Sleep Summary

Total Recording Time:	405.7 minutes	Apnea + Hypopnea (A+H):	337	86.3 / h
Sleep Period:	403.4 minutes	Obstructive Apnea:	77	19.7 / h
Wake After Sleep Onset:	166.9 minutes	Central Apnea:	102	26.1 / h
Total Sleep Time:	236.5 minutes	Mixed Apnea:	96	24.6 / h
Sleep Onset:	2.3 minutes	Hypopnea (All)	62	15.9 / h
Sleep Efficiency:	58.3 %	Obstructive Hypopnea:	-	-
Number of Awakenings:	146	Central Hypopnea:	-	-
Sleep Latency to N1:	2.3 minutes	Mixed Hypopnea:	-	-
Sleep Latency to N2:	4.3 minutes	RDI:	88.4	
Sleep Latency to N3 (SWS):	0.0 minutes	Oxygen Desaturation Events (OD):	275	70.4 / h
Stage R Latency from Sleep Onset:	369.0 minutes	Snore Time:	87.2 minutes	37.2 %
		Limb Movement:	-	- / h
		PLMS:		- / h

Titration Statistics

Device Mode	Pressure	Duration	OA	CA	MA	All H	AHI	RERA	All Resp	RDI	SpO2	SpO2
	/cmH2O	/min	#	#	#	#	/h	#	#	/h	Min %	Mean %
CPAP	0.0	0.1	-	-	-	-	-	-	-	-	-	-
CPAP	4.0	18.7	-	-	-	7	26	-	7	26	91	95
CPAP	5.0	19.1	-	-	-	9	28	-	9	28	90	94
CPAP	6.0	50.5	-	-	-	13	16	-	13	16	91	95
CPAP	7.0	173.9	-	-	-	8	3	-	8	3	89	96
CPAP	8.0	163.9	1	-	2	6	7	-	9	7	89	96
CPAP	9.0	4.5	-	-	2	-	120	-	2	120	89	96

Device Mode	Pressure	TST	REM	Non-REM	Wake	Arousal	Arousal	LM/RR	LM/RR	PLM	PLM
	/cmH2O	/min	/min	/min	/min	#	/h	LM #	LM /h	#	/h
CPAP	0.0	0.0	0.0	0.0	0.1	-	-	-	-	-	-
CPAP	4.0	16.2	0.0	16.2	2.4	5	18	30	111	2	7
CPAP	5.0	19.1	0.0	19.1	0.0	1	3	19	60	2	6
CPAP	6.0	49.0	0.0	49.0	1.5	19	23	62	76	7	9
CPAP	7.0	150.9	12.0	138.9	23.0	59	23	75	30	2	1
CPAP	8.0	78.3	8.0	70.3	85.6	34	26	7	5	-	-
CPAP	9.0	1.0	0.0	1.0	3.5	1	60	-	-	-	-

순응도 보고서

최초 순응도 기간

순응도 충족
순응도 퍼센트

사용량

사용 일 수
>= 4 시간
< 4 시간
사용 시간
평균 사용 (총 일 수)
평균 사용 (사용 일 수)
사용 중간값 (사용 일 수)
총 사용 시간 (마지막 리셋 아래의 값 - 2026/03/24)

2026-05-18 - 2026-05-31

Device: AirSense 10 Elite (S/N: 22211429904)

Device Settings

Therapy Mode: CPAP	Set Pressure: 9.6 cmH2O	EPR: FULL_TIME
EPR Level: 3.0 cmH2O	EPR Enable: ON	EPR Patient Enable: ON
Ramp Enable: OFF	Ramp Time: 5.0 Minutes	Essentials: ON

Leak - L/min

Median: 0.0	95th Percentile: 14.4	Maximum: 30.0
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Respiratory Indices - events/hr

Apnea Index: 2.0	Hypopnea Index: 1.1	AHI: 3.1
Obstructive: 0.3	Central: 1.6	Unknown: 0.0
% Time in CSR: 0.0		

Total Usage

Used Days >= 4 hrs : 13	Used Days < 4 hrs : 0	% Used Days >= 4 hrs : 92
Days not used: 1	Total days: 14	Total hours used: 91:36
Median daily usage: 7:16	Average daily usage: 6:32	

7 시간 37 분

6,983 시간

AirSense 10 Elite

일련번호	22211429904
모드	CPAP
압력 설정	9 cmH2O
EPR	풀타임
EPR 레벨	3

치료

누출 - L/min	중간값: 2.4	제95위 백분위수: 12.0	최대: 51.1
시간당 이벤트	AI: 5.8	HI: 2.9	AHI: 8.7
무호흡 지수	중추성: 3.1	폐쇄성: 2.5	알 수 없음: 0.0
체인-스토크스호흡 (야간당 평균 지속시간)	0 분 (0%)		

감사합니다

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WONJU SEVERANCE CHRISTIAN HOSPITAL

