

Doctor	Dr. Samuel Brainsample
Patient	Mrs. Podgorny
Sex	F
Age	58
Birth date	18.03.1961
Equipment	"Encephalan-EEGR-19/26" AT-PSG-Video-Poly
Method	Polysomnographic study
Channels configuration	ES-EEG-19-3(ECG) Poly-10(2RespEf / 2EMG / T-Flow / Snore) WPM(SpO2, P-Flow, BodyPos)
Study date	11.11.2019 12:46:50

## Study description

Obstructive sleep apnea syndrome was severe, AHI = 75.2/h (N<5).

Total number of respiratory events – 378, of which obstructive apneas – 134, mixed apneas – 0, central apneas – 0, hypopneas (also OBS and central) – 244.

Maximum duration of obstructive apnea – 52 s. Respiratory disorders recorded mainly on the back. Presence of snoring, number of episodes – 2096, snoring index – 417.1/h. Minimum SpO2 level – 77% (N>90%). Mean SpO2 was normal – 95.4% (N>92%).

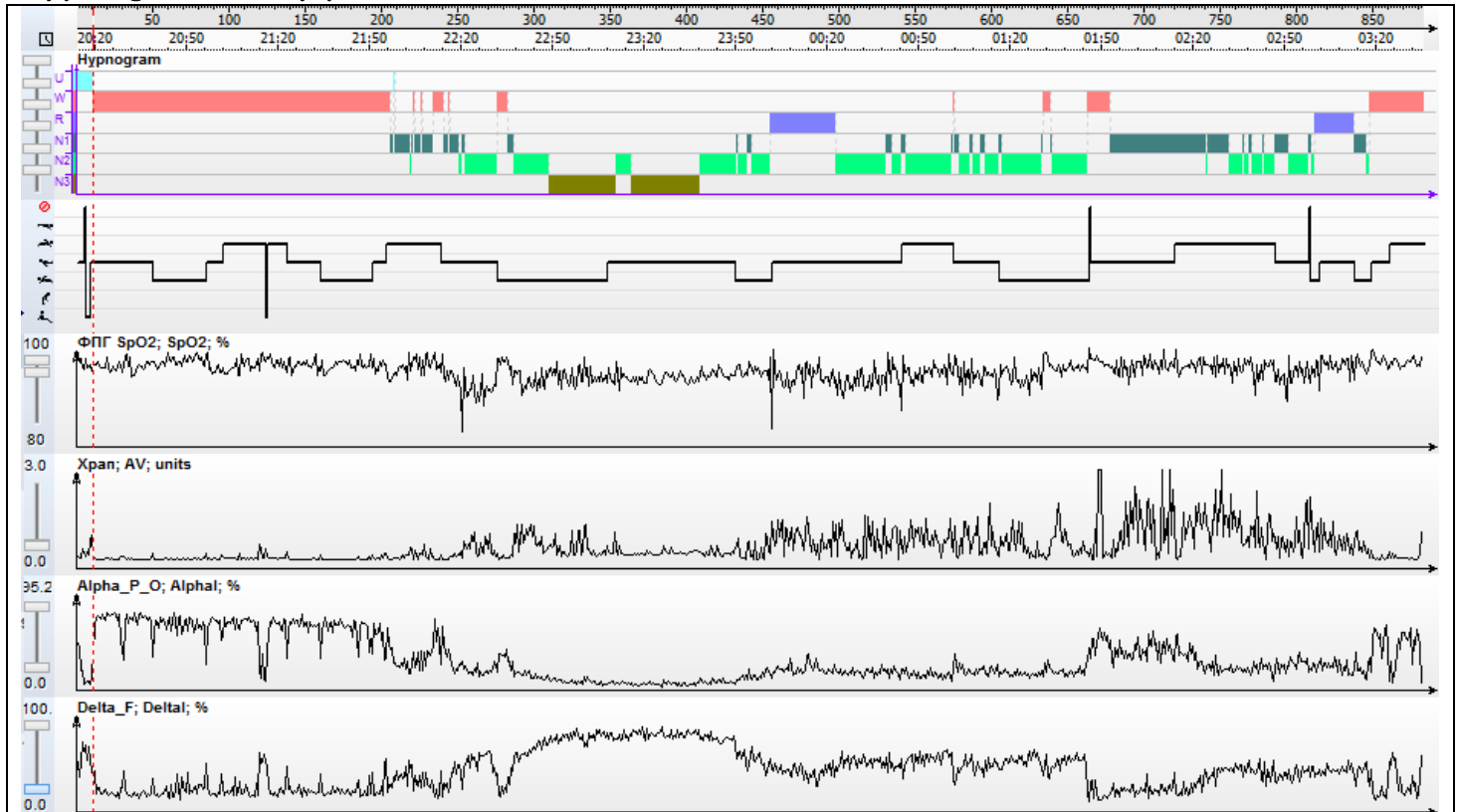
Sleep onset latency was increased – 103 min (N 6–10 min). Sleep efficiency reduced – 69.1% (N>90%).

Stage duration N1 increased – 27.0% (N 3-8%). Stage duration N2 normal – 46.8% (N 45–55%). Stage duration N3 normal – 14.8% (N 15-20%). Stage duration REM reduced – 11.4% (N 20-25%).

Arousal index – 17.7/h (N<21). Most arousals were related to respiratory events.

Periodic limb movement disorder was severe, PML index – 61/h.

## Hypnogram, body position and trends



## Sleep statistics

Study information		Sleep events statistics	
Calculated parameter	Value	Calculated parameter	Value
Date of recording	July 26, 2019	Number of apnea	134
Light off (HH:MM)	20:19	Number of hypopnea	244
Light on (HH:MM)	03:36	Number of apnea+hypopnea	378
Total recording time (TRT) (HH:MM)	07:16	Apnea index /h	26,7
Total sleep time (TST) (HH:MM)	05:01	Hypopnea index /h	48,6
Sleep onset (HH:MM)	21:57	Apnea+hypopnea index /h	75,2
		Respiratory disorders index (RDI)	75,2
<b>Sleep data</b>		Arousals	89
Sleep latency, min	97	Arousals index /h	17,7
N1 latency, min	0	LM number	14
N2 latency, min	6	LM index /h	2,8
N3 latency, min	52	PLM number	308
REM latency, min	124	PLM index /h	61,3
Sleep efficiency, %	69,1	Snoring number	2096
Awakenings	10	Snoring index /h	417,1
Wake after sleep onset (WASO), min	38	SpO2 baseline	96

## Body position statistics

Body position	Duration	% from TST
Supine	02:41:00	45
Left	01:02:30	17
Right	01:18:10	22
Chest	00:52:20	14

## Sleep stages statistics

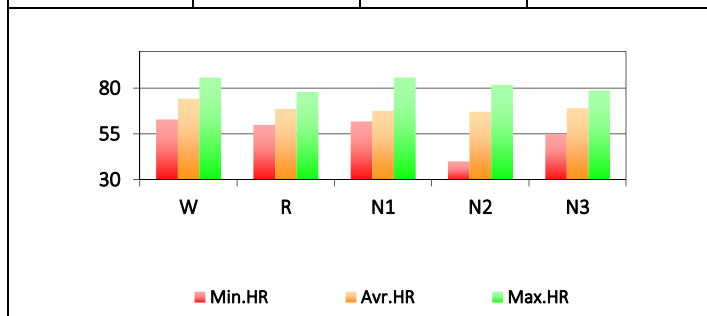
Sleep stage	Duration	% from TST	Norm
REM	35	11	20-25
N1	82	27	3-8
N2	141	47	45-55
N3	45	15	15-20

## Cardiac statistics

Minimal HR level		40	Average HR level		69
ECG events	Qty.	Index	Total duration, s	Avr. duration, s	Max. duration, s
Tachycardia	10	1,4	2	11	22
Bradycardia	114	15,7	34	18	35
Asystole	0	0,0	0	0	0

## HR by sleep stages, bpm

Sleep stage	Min. HR	Avr. HR	Max. HR
W	63	74	86
REM	60	69	78
N1	62	68	86
N2	40	67	82
N3	55	69	79



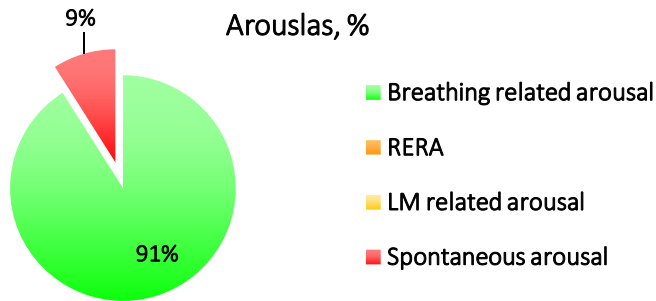
## HR by body positions, bpm

Body position	Min. HR	Avr. HR	Max. HR
On back	63	71	86
Not on back	61	70	88
Left	60	68	86
Right	40	69	86
Chest	61	72	88



## Arousals statistics

Arousals	Qty.	Index /h	Dur., s	Avr. dur., s	Max. dur., s	%
Breathing related arousal	81	16,1	11	8	17	91
RERA	0	0,0	0	0	0	0
LM related arousal	0	0,0	0	0	0	0
Spontaneous arousal	8	1,6	1	8	13	9
All arousals	89	17,7	12	-	-	100

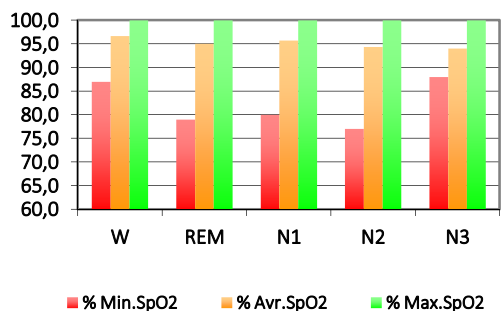


## SpO2 statistics

SpO2 baseline	96	Minimal SpO2 level	77	Average SpO2 level	95
Event	Qty.	Index /h.	Duration, s.	Avr. dur., s.	Max. dur., s.
Desaturation	407	81,0	143	21	112
Critical SpO2 value	3	0,4	18	6	8

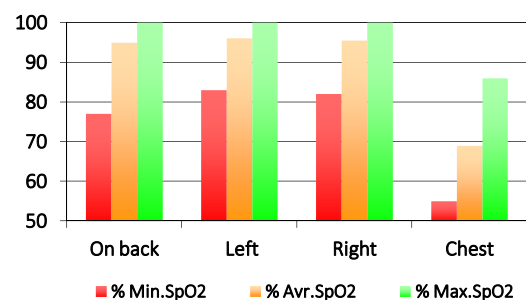
## SpO2 by sleep stages, %

Sleep stage	Min. HR	Avr. HR	Max. HR
W	87	97	100
REM	79	95	100
N1	80	96	100
N2	77	94	100
N3	88	94	100



## SpO2 by body positions, %

Body position	Min. HR	Avr. HR	Max. HR
On back	77	95	100
Not on back	55	92	100
Left	83	96	100
Right	82	96	100
Chest	55	69	86



## SpO2 values distribution

Value	Time (min.)	Time (% from TST)
100 – 94%	211	70
93 – 88%	78	25,9
87 – 80%	10	3,3
79 – 70%	0	0
69 – 60%	0	0
59 – 50%	0	0
< 90%	21	7

SpO2 Range	Percentage
100 - 94%	~70%
93 - 88%	~25.9%
87 - 80%	~3.3%
79 - 70%	0%
69 - 60%	0%
59 - 50%	0%
< 90%	~7%

## Desaturations

Value	Quantity
3 – 4%	165
5 – 10%	182
11 – 15%	47
16 – 70%	13

## Breathing disorders statistics

Events	Qty	Duration, s	% from TST	Index /h	Qty. in REM	REM index /h	Qty. in NREM	NREM index /h	Avr. dur., s	Max. dur., s
O. apnea	134	47	15,6	26,7	34	59,1	100	22,5	21	52
C. apnea	0	0	0,0	0,0	0	0,0	0	0,0	0	0
M. apnea	0	0	0,0	0,0	0	0,0	0	0,0	0	0
Apnea total	134	47	15,6	26,7	34	59,1	100	22,5	-	-
O. hypopnea	244	80	26,5	48,6	25	43,5	219	49,2	20	52
C. hypopnea	0	0	0,0	0,0	0	0,0	0	0,0	0	0
Hypopnea	0	0	0,0	0,0	0	0,0	0	0,0	0	0
Hypopnea total	244	80	26,5	48,6	25	43,5	219	49,2	-	-
A+H	378	127	42,1	75,2	59	102,6	319	71,7	-	-

Events	On back	On back Index /h.	Not on back	Not on back Index /h.	Right side	Right side Index /h.	Left side	Left side Index /h.	Chest	Chest Index /h
O. apnea	118	44,0	16	6,8	6	4,6	10	9,6	0	0,0
C. apnea	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0
M. apnea	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0
Apnea total	118	44,0	16	6,8	6	4,6	10	9,6	0	0,0
O. hypopnea	83	30,9	161	68,7	61	46,8	100	96,0	0	0,0
C. hypopnea	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0
Hypopnea	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0
Hypopnea total	83	30,9	161	68,7	61	46,8	100	96,0	0	0,0
A+H	201	74,9	177	75,5	67	51,4	110	105,6	0	0,0

## HR statistics

Event	Qty.	Index, /h			
Snore	2096	417,1			
HR by sleep stages		HR by body positions			
During N1	452	332,8	On back	1179	439,4
During N2	845	359,6	Not on back	917	391,1
During N3	584	787,4	Right	581	446,0
During REM	215	373,9	Chest	0	0,0
			Left	336	322,6

## Limbs movements statistic

Limbs movements (LM including PLM)			Periodic limbs movements		
Events	Qty.	Index /h.	Events	Qty.	Index /h.
LM	14	2,8	PLM	308	61,3
<i>Sleep stages statistics</i>					
During N1	3	2,2	During N1	124	24,7
During N2	4	1,7	During N2	165	32,9
During N3	0	5,4	During N3	1	0,2
During REM	3	5,2	During REM	18	3,5
<i>Body positions statistics</i>					
On back	11	4,1	On back	130	25,9
Not on back	3	1,3	Not on back	178	35,48
Right	3	2,3	Right	67	13,35
Chest	0	0,0	Chest	0	0,0
Left	0	0,0	Left	0	22,1