Lecture: Narcolepsy - Not as uncommon as you think!

Sam Fillingane, DO

The Cosmopolitan of Las Vegas
March 12-15, 2015 | Las Vegas, Nevada
39.5 Category 1-A CME credits anticipated - Includes 15 pre-con credits beginning on March 11
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Please check where applicable and sign below. Provide additional pages as necessary.

Name of CME Activity: ACOFP 52nd Annual Convention and Scientific Seminars

Dates and Location of CME Activity: March 12-15, 2015, The Cosmopolitan Las Vegas, Nevada
Lecture: Narcolepsy - Not as uncommon as you think!

Saturday, March 14, 2015 1:00-2:00pm

Name of Faculty/Moderator: Sam Fillingane, DO

DISCLOSURE OF FINANCIAL RELATIONSHIPS WITHIN 12 MONTHS OF DATE OF THIS FORM

A. Neither I nor any member of my immediate family has a financial relationship or interest with any proprietary entity producing health care goods or services.

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Please indicate the name(s) of the organization(s) with which you have a financial relationship or interest, and the specific clinical area(s) that correspond to the relationship(s). If more than four relationships, please list on separate piece of paper:

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<th>Organization With Which Relationship Exists</th>
<th>Clinical Area Involved</th>
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<tr>
<td>1. Health Diagnostic Laboratory</td>
<td>1. Speaker Bureau/Advisory Board</td>
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*If you checked "Speakers' Bureau" in item B, please continue:

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Investigational use of advanced biomarkers that could correlate with morbidity.

I have read the ACOFP policy on full disclosure. If I have indicated a financial relationship or interest, I understand that this information will be reviewed to determine whether a conflict of interest may exist, and I may be asked to provide additional information. I understand that failure or refusal to disclose, false disclosure, or inability to resolve conflicts will require the ACOFP to identify a replacement.

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Sam Fillingane, DO

Please fax this form to ACOFP at 866-328-1835 or email to ioank@acofp.org as soon as possible.

Deadline: Monday, January 12, 2015
Narcolepsy
More common than you think!
Sam Fillingane, D.O.
Practice devoted to: Cardiovascular Risk Reduction
Jackson, Mississippi
Adjunct Clinical Professor, William Carey University, COM
Sam@Fillingane.com
www.straighttotheheart.info

The Many Faces of Narcolepsy
Sometimes Narcolepsy presents with extreme frustration!

**Interesting Facts About Narcolepsy**

- While 70% of the general public is aware of narcolepsy, it was ranked lowest in awareness of the chronic disease states requiring long term treatment.
- 42% of the sleep specialists and 24% of the PCP’s considered themselves “very” or “extremely” knowledgeable about narcolepsy.
- Only 42% of the sleep specialists and 9% of the PCP’s felt “very” or “extremely” comfortable diagnosing narcolepsy.
- Only 22% of the sleep specialists and 7% of the PCP’s identified all 5 of the key narcolepsy symptoms.
- No participant in the general population could identify all 5 of the key narcolepsy symptoms.
- 35% of sleep specialists and 39% of PCP’s recognized the two most prominent narcolepsy symptoms, excessive daytime sleepiness and cataplexy.

**The Awaken Survey**

- 1000 U.S. Participants
- 300 PCP’s
- 100 Sleep Specialists (36% Board Certified)
- 600 General Public

- This patient is going unnoticed all over the United States!
- This patient responds very well to treatment
- Narcolepsy is a significant CV disease risk factor!
Kids with Narcolepsy

Some are classified Learning Disabled

“Narcolepsy is a serious debilitating condition that takes strength and courage to live with.”

Ask me how ridiculous Narcolepsy made my day.
When does Narcolepsy begin

Median = 18 yoa

Theory of how Narcolepsy begins

Figure 1—Model for the etiology of narcolepsy, modified from a similar model proposed for type 1 diabetes.122

Narcolepsy

A sleep disorder characterized by:
poor control of sleep wake cycles.

Hypnagogic Hallucinations

They enter REM sleep quickly, bypassing the needed N3 sleep.

Stage N1 -> Stage N2 -> Stage N3 -> REM

The Five Stages of Sleep

Sleep Stages

Stage 1
Stage 2
Stage 3
Stage 4
REM Sleep

Terminology

Sleep Study Sleep Stages

N1 Sleep
N2 Sleep
N3 Sleep
REM Sleep
Three Most Common Sleep Disorders

- **Obstructive Sleep Apnea (OSA)**: Breathing repeatedly stops and starts during sleep.
- **Restless Leg Syndrome (RLS)**: Involves the need to move your legs frequently to avoid uncomfortable sensations.
- **Narcolepsy**: Autoimmune destruction of hypocretin-producing neurons inhibiting the brain’s ability to regulate sleep wake cycles.

What do these 3 sleep disorders have in common?

1. No N3 sleep
2. Fatigue
3. Low levels of mesolimbic brain chemicals such as serotonin, melatonin, dopamine, or norepinephrine
4. High levels of circulating adrenaline

The Purpose of sleep is:

**To Make Brain Chemicals!**
The lack of “Brain Chemistry” leads to:

- Excessive daytime drowsiness
- Headaches
- Depression
- Poor memory
- Difficulty Concentrating

How does Narcolepsy differ from OSA and RLS:

OSA & RLS: N1 → N2 → N3 → REM

Narcolepsy: N1 → N2 → N3 → REM

Brain chemicals are made during N3 sleep.
Narcolepsy and Irresistible Sleep Attacks

Excessive Daytime Sleepiness is comparable to 72 hours of sleep deprivation and is often the first symptom of Narcolepsy.

Narcolepsy and Cataplexy

- Episodes of muscle weakness
- Severity varies among Narcoleptics
- Emotional Trigger
- Autoimmune Destruction of Neurotransmitter
- Cause Unknown
Narcolepsy and Hypnagogic Hallucinations

Hypnagogic hallucinations occur while you are falling asleep

Have you ever had a dream that felt so real when you woke up, you didn't know if it actually happened or not?

Hypnagogic hallucinations are dreams that stay with you for hours and days!

Narcolepsy and Sleep Paralysis

SLEEP PARALYSIS

Feeling of being conscious and unable to move

YOU WILL NEVER KNOW TRUE FEAR

UNTIL YOU EXPERIENCE SLEEP PARALYSIS
Disrupted Nocturnal Sleep

- Patients with narcolepsy don’t usually have difficulty falling asleep at night, but they often have difficulty staying asleep.
- Narcoleptic patients sleep can be interrupted by many things including insomnia, vivid dreams, restless legs, and sleep talking.

Diagnosis of Narcolepsy

- **Multiple Sleep Latency Test** - Test usually done following a polysomnogram by assessing patients speed at entering REM sleep during 5 nap sessions (Five 20 minute naps every 2 hours). A patient having 2 naps out of 5 with REM sleep showing up within 5 minutes is a positive study (Certain medication can alter your ability to see the SOREM [Sleep onset rapid eye movement (REM)] episodes.)
- Tests such as **Epworth Sleepiness Scale (ESS)** are often used to assess excessive daytime drowsiness. Scores > 10 warrant further investigation (scale is 0-24).
- **Spinal Tap for Orexin (Hypocretin) Levels** (rarely done due to the requirement of a spinal tap).
Diagnostic Dilemmas

Many of these patients display symptoms of **Depression**
If these patients are on anti-depressants or medications for bipolar disorder, you could alter their REM latency seen on their Multiple Sleep Latency Test (MSLT).

Treatment of Narcolepsy

- **Modafinil (Provigil) or Armodafinil (Nuvigil)** - Causes the alertness center in the hypothalamus to activate.
- **Amphetamines used as stimulants** (not acceptable for use in patients at risk for CV disease).
- **Clonazepam (Klonopin)** - treats insomnia often seen in Narcolepsy patients.
- **Sodium Oxybate (Xyrem)** - helps patients spend more time in N3 sleep while eliminating or decreasing episodes of cataplexy.
Unexplained elevation of chronic inflammatory biomarkers

Check out the improvement in chronic inflammation after Narcolepsy is ID'd and treated!

SS - Narcolepsy Patient’s Biomarker Trend Analysis

Myeloperoxidase (MPO) and Lp-PLA2 represent biomarkers of chronic inflammation. When these two biomarkers are not declining as well as expected with you treating everything you are aware of with great success, ask questions about excessive daytime drowsiness, looking at all sleep disorders but considering a strong suspicion of narcolepsy if the patient has any symptoms that mimic cataplexy, hypnogogic hallucinations, or sleep paralysis.

No lipoprotein changes c/w insulin resistance

Lp(a) is elevated and treated with Niaspan albeit not normalized

Heart has stiffened due to calcification

Heart stiffening due to fibrosis is rather bothersome

The pancreas is not overworked despite IR

Blood sugar control is respectable

Vitamin D Level is usually respectable

Carbohydrate intake is usually respectable

No Brain IR (No Diabetes Type 3)

Omega-3 Levels are consistently low

SS - Narcolepsy Patient’s Biomarker Trend Analysis

Note that the Apo B and LDL-P Levels look good despite the ekt changes not looking good.

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Narcolepsy Diagnoses

First 26 years of practice 4 Cases

Last 2 years of practice 24 Cases

I am convinced that Narcolepsy is Much More Common than we thought!

Practical Considerations

• Excessive Daytime Drowsiness has multiple considerations, but the possibility of narcolepsy needs to be considered!

• Ask drowsy patients if their legs or arms periodically get suddenly weak and unable to move for several minutes (i.e. cataplexy).

• Ask if vivid dreams are occurring that they remember into the evening or the next day (i.e. hypnagogic hallucinations).

• Ask if they feel the strong need to take daytime naps during the day, even at their workplace (i.e. excessive daytime drowsiness).

• Ask if night-time sleep is fragmented.

• If pseudoseizures are present, it is imperative that a sleep study is ordered to include a Multiple Sleep Latency Test (MSLT).
Any Questions???