The other primary end point was improvement in lung function as reflected in mean change from baseline in forced expiratory volume in 1 second (FEV<sub>1</sub>) prior to administration of a bronchodilator.

Again, roflumilast showed a highly significant advantage, with a 33-mL increase in FEV<sub>1</sub> as compared to a 25-mL decrease with placebo over the course of 12 months.

The change over time in postbronchodilator FEV<sub>1</sub>—a secondary end point—consisted of a 44-mL increase with roflumilast as compared to a 17 mL decrease with placebo, also a significant difference.

The other prespecified secondary end point was time to death from any cause, which was similar in the two study arms at 201 days for roflumilast and 215 days for placebo. All-cause mortality was 3% per year in each group.

Adverse events were mostly mild in nature. The two that were more frequent in the roflumilast arm were diarrhea and weight loss, affecting 9% and 8% of patients, respectively.

Nearly one-third of the subjects in each treatment group withdrew from the study during the course of the year.

COPD is a highly prevalent disease with a broad spectrum of manifestations. In addition to the sort of patients who were enrolled in M2-125, the other subset of COPD patients in which roflumilast has shown compelling efficacy in large clinical trials is those with moderate to severe COPD who are on long-acting bronchodilators, according to Dr. McIvor.

The M2-125 study was sponsored by Nycomed, formerly Altana Pharma. Dr. McIvor is a consultant to the com-

For several adverse experiences that appear to be drug and dose related, there was a greater incidence in women than men associated with amlodipine treatment as shown in the following table:

Adverse Event	amlodipine		Placebo		
	M=%	F=%	M=%	F=%	
	(N=1218)	(N=512)	(N=914)	(N=336)	
Edema	5.6	14.6	1.4	5.1	
Flushing	1.5	4.5	0.3	0.9	
Palpitations	1.4	3.3	0.9	0.9	
Somnolence	1.3	1.6	0.8	0.3	

Flushing 1.5 4,5 0.3 0.9 0.9

Ralpitations 1.4 3.3 0.9 0.9 0.9

Somnolence 1.3 1.6 0.8 0.9 0.9

The following events occurred in <1% but >0.1% of patients treated with amlodipine in controlled clinical trials or under conditions of open trials or marketing experience where a causal relationship is uncertain; they are listed to alert the physician to a possible relationship. Cardiovascular: arrhythmia (including ventricular tachycardia and trial fibrillation), bradycardia, chest pain, hypotension, peripheral ischemia, syncope, tachycardia, postural dizziness, postural hypotension, vasculitis. Central and Peripheral Nervous System: hypoesthesia, neuropathy peripheral, paresthesia, tremor, vertigo, Gastrointestinal: anorexia, constipation, dyspepsia,\* "4 dysphagia, diarrhea, flatulence, pancreatitis, vomiting, gingiyal hyperplasia. General: allergic reaction, asthenia,\* back pain, hot flushes, malaiser, pain, rigors, weight gain, weight decrease. Musculoskeletal System: athralgia, arthrosis, muscle cramps,\* myalgia.
Psychiatric: sexual dysfunction (male\*\* and female), insomnia, nervousness, depression, abnormal dreams, anxiety, depersonalization. Respiratory System: dyspnea,\* "\* epistaxis. Skin and Appendages: angloedema, erythema multiforme, pruritus,\*\* rash,\*\* rash erythematous, rash maculopapular. \*\*These events occurred in less than 1% in placebo-controlled trials, but the incidence of these side effects was between 1% and 2% in all multiple does studies. Special Senses: abnormal vision, conjunctivitis, diplopia, eye pain, tinnitus. Urlinary System: micturition frequency, micturition disorder, nocturia. Autonomic Nervous System: dry mouth, sweating increased. Metabolic and Nutritional: hyperglycemia, thirts. Hemopoletic: leukopenia, purpura, thrombocytopenia. The following events occurred visual accommodation, and xerophthalimia. Other reactions purpura, thrombocytopenia. The following events occurred visual accommodation, and xerophthalimia. Other reactions occurred sporadically and cannot be distinguished f

	atorvastatin					
Body System/ Adverse Event BODY AS A WHOLE	Placebo N=270	10 mg N=863	20 mg N=36	40 mg N=79	80 mg N=94	
	10.0	10.2	2.0	10.1	7.4	
Infection		10.3	2.8			
Headache	7.0	5.4	16.7	2.5	6.4	
Accidental Injury	3.7	4.2	0.0	1.3	3.2	
Flu Syndrome	1.9	2.2	0.0	2.5	3.2	
Abdominal Pain	0.7	2.8	0.0	3.8	2.1	
Back Pain	3.0	2.8	0.0	3.8	1.1	
Allergic Reaction	2.6	0.9	2.8	1.3	0.0	
Asthenia	1.9	2.2	0.0	3.8	0.0	
DIGESTIVE SYSTEM						
Constipation	1.8	2.1	0.0	2.5	1.1	
Diarrhea	1.5	2.7	0.0	3.8	5.3	
Dyspepsia	4.1	2.3	2.8	1.3	2.1	
Flatulence	3.3	2.1	2.8	1.3	1.1	
RESPIRATORY SYSTEM						
Sinusitis	2.6	2.8	0.0	2.5	6.4	
Pharyngitis	1.5	2.5	0.0	1.3	2.1	
SKIN AND APPENDAGES						
Rash	0.7	3.9	2.8	3.8	1.1	
MUSCULOSKELETAL SYSTE						
Arthralgia	1.5	2.0	0.0	5.1	0.0	
Myalgia	1.1	3.2	5.6	1.3	0.0	
Anglo-Scandinavian Cardia	<ul> <li>Outcomes Trial I</li> </ul>	ASCOT): In ASCOT	(SEE CLINICAL PH	ARMACOLOGY CH	inical Studies	

MUSCULOSKELETAL SYSTEM
Arthralgia

1.5

2.0

0.0

5.1

0.0

Myalgia

1.5

3.2

5.6

1.3

0.0

Anglo Scandinavian Cardiac Outcomes Trial (ASCOT): In ASCOT (see CLINICAL PHARMACOLOGY, Clinical Studies, Clinical Studies with Atorvastatin) involving 10.305 participants treated with atorvastatin to mg daily (n-5,168) or placebo (n-5,137), the safety and tolerability profile of the group treated with atorvastatin was comparable to that or the group treated with placebob during a median of 3.3 years of follow-up. Collaborative Atorvastatin Diabetes Study (CARDS): in CARDS (see CLINICAL PHARMACOLOGY, Clinical Studies, Clinical Studies with Atorvastatin) involving 2838 subjects with type 2 diabetes treated with LIPITOR 10 mg daily (n-1428) or placebo (n-1410), there was no difference in the overall frequency of adverse events or serious adverse events between the treatment groups during a median follow-up of 3.9 years. No cases of rhabdomyolysis were reported. Treating to New Targets Study (TMT): In TNT (see CLINICAL PHARMACOLOGY, Clinical Studies) involving 10.001 subjects with clinically evident CHD treated with LIPITOR 10 mg daily (n-9506) or LIPITOR 80 mg daily (n-4995), here were more serious adverse events and discontinuations due to adverse events in the high-dose atorvastatin group (92, 1.8%, 497, 9.9%, respectively) as compared to the low-dose group (69, 1.4%, 404, 8.1%, respectively) during a median follow-up of 4.9 years. Persistent transaminase elevations (52 x ULN twice within 4-10 days) occurred in 62 (1.3%) individuals with atorvastatin transminase elevations (52 x ULN twice within 4-10 days) occurred in 62 (1.3%) individuals with atorvastatin 10 mg, Elevations of CK e. 10 x ULN) were low overall, but were inspired in the high-dose atorvastatin group (6, 0.1%). Incremental Decrease in Endpoints Through Aggressive Lipid Lowering Study (IDEAL), in IDEAL (see CLINICAL PHARMACOLOGY, Clinical Studies) involving 8.888 subjects treated with INITIOR 80 mg day (n-4439) simay studies in which and the studies of the

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Pfizer Labs

Division of Pfizer Inc., NY, NY 10017

with aniodigine makers in the sliet for up to two pears, at concentrations adultated to provide daily dragsglines in file aniodigine makers in the sliet for up to two pears, at concentrations adultated to provide daily dragsglines in file aniodigine makers in the sliet for up to two pears, and the summary and the sliet for up to two pears and the sliet of the sliet for the makes, the highest dose level was, on an grint basis, similar to the maximum recommended human dose of 10 mg aniodigine/dyr. For the rath, the highest dose level was not the tentity of an attent or only with aniodigine makers and the foreign the sliet of the sliet o

group compared to piacebo. Subjects with nemorrhagic stroke on study entry appeared to be at increased risk removerhagic stroke.

ADVERSE REACTIONS: CADUET: CADUET (amlodipine besylate/atorvastatin calcium) has been evaluated for safety in 1092 patients in double-blind placebo controlled studies treated for co-morbid hypertension and dyslipidemia. In general, treatment with CADUET was well tolerated. For the most part, adverse experiences have been mild or moderate in severity. In clinical trials with CADUET, no adverse experiences peculiar to this combination have been observed. Adverse experiences are similar in terms of nature, severity, and frequency to those reported previously with amlodipine and atorvastatin. The Amlodipine Component of CADUET: Amlodipine has been evaluated for safety in more than 11,000 patrics in U.S. and foreign clinical trials. In general, treatment with amlodipine was well tolerated at doses up to 10 mg daily. Most adverse reactions reported during therapy with amlodipine were of mild or moderate severity. In controlled clinical trials directly comparing amlodipine (N=1730) in doses up to 10 mg to placebo (N=1250), discontinuation of amlodipine due to adverse reactions was required in only about 1.5% of patients and was not significantly different from placebo (about 1%). The most common side effects are headache and edema. The incidence (%) of side effects which occurred in a dose related manner are as follows:

Ambodione

nal Pain

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## **Vocal Cord Dysfunction** Apes Asthma

BY DOUG BRUNK

SAN DIEGO — About one-third of patients referred to an asthma specialty clinic who were believed to have difficult to control asthma actually had vocal cord dysfunction, results from a singlecenter study showed.

"If patients have been on many different medicines—they've been on oral or inhaled steroids and they're not responding-it's worth checking to see if they actually have asthma or not," study coauthor Catherine Vitari, R.N., said in an interview during a poster session at an international conference of the American Thoracic Society.

In a study led by her associate, Dr. Sally E. Wenzel, a pulmonologist and the director of the Asthma Institute at the University of Pittsburgh Medical Center,

Of 119 patients, 33% didn't have asthma. 'We didn't expect to see this. That's a pretty high percentage of people referred for asthma who didn't actually have asthma.'

the researchers reviewed the charts of 152 new patients evaluated at the institute between December 2006 and September 2008 in an effort to verify the diagnosis of severe asthma.

Of the 152 patients, 119 (78%) had a presenting diagnosis of asthma while 33 had another diagnosis such as dyspnea, cough, and emphysema.

Ms. Vitari, a clinical research nurse at the Asthma Institute, reported that 40 of the 119 patients who presented with an asthma diagnosis underwent methacholine challenges with laryngoscopy because their history and physical suggested asthma may not be the primary diagnosis. Of these 40 patients, 39 had a negative test, which precluded the diagnosis of asthma in 33% of the 119 patients. "We didn't expect to see this," she commented. "That's a pretty high percentage of people referred for asthma who didn't actually have asthma."

Dr. Wenzel performs a laryngoscopy at the time of the methacholine challenge "to see if the vocal cords are closing or spasming, indicating vocal cord dysfunction, or if it's truly asthma," Ms. Vitari explained. "If you send the patient to ENT instead to do a laryngoscopy and they don't see anything, it could be that the vocal cord dysfunction isn't acting up at that time since the spasms can be episodic and/or related to triggering events or stimuli."

She acknowledged certain limitations of the study, including its single-center design and the fact that only one physician did the assessments. The researchers had no conflicts to disclose.