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L'anziano vulnerabile: il significato delle sindromi geriatriche

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The aging process is often accompanied by the occurrence of multiple diseases, a condition known as comorbidity;

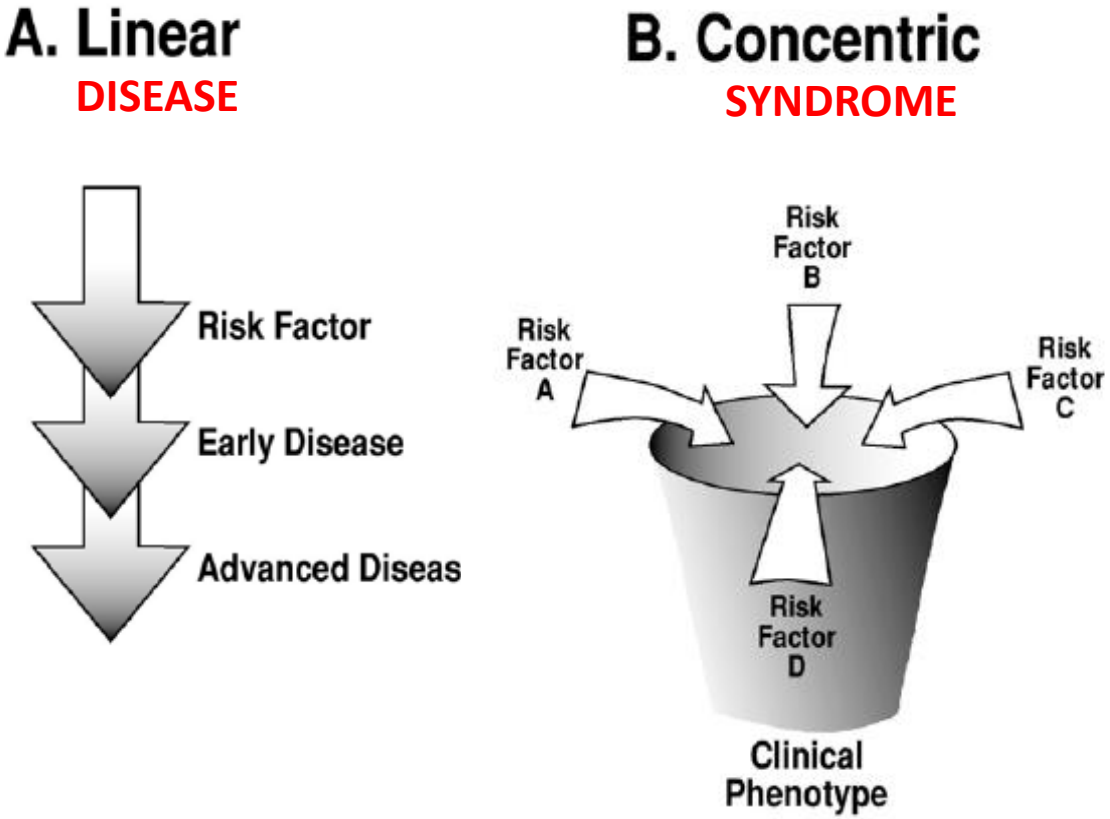
Comorbidity is a major determinant of health outcomes in older adults, responsible for a high treatment burden and for an increased risk of hospitalization and death;

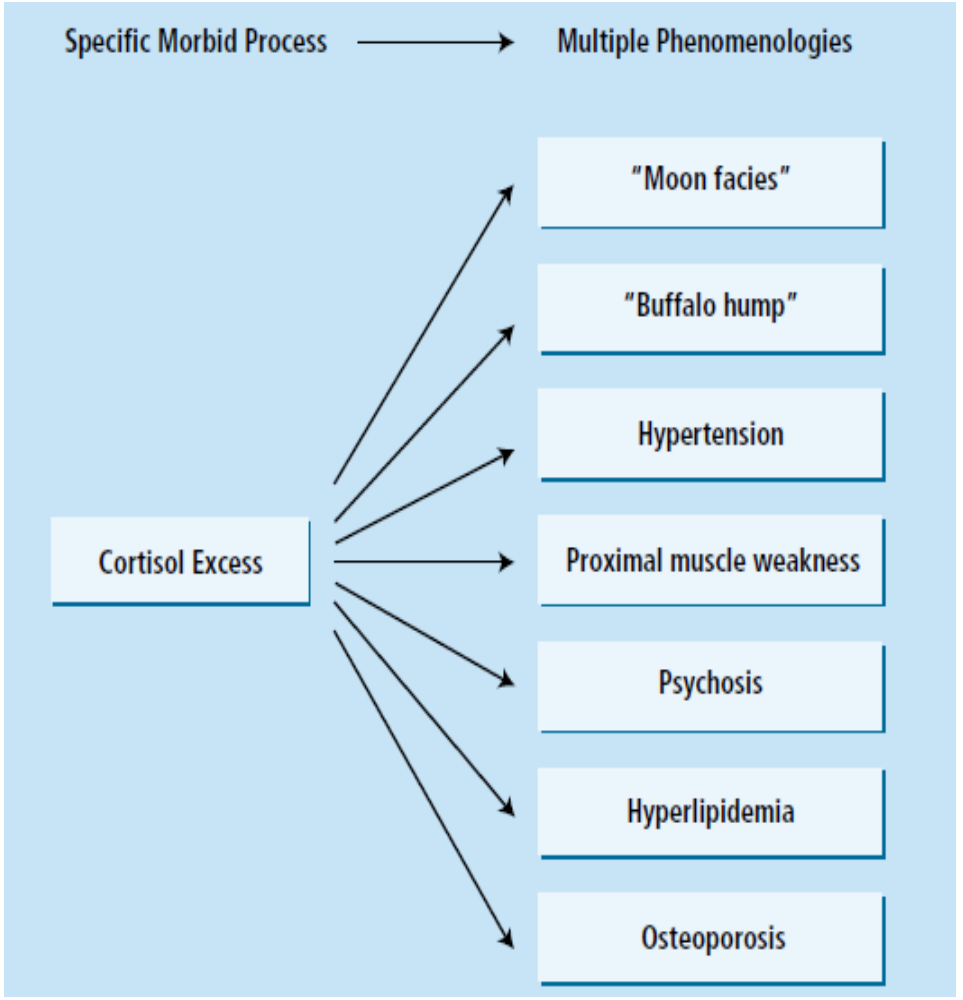
Adults with multiple chronic conditions represent the major users of health care services, accounting for more than two-thirds of resource use;

VULNERABILITY

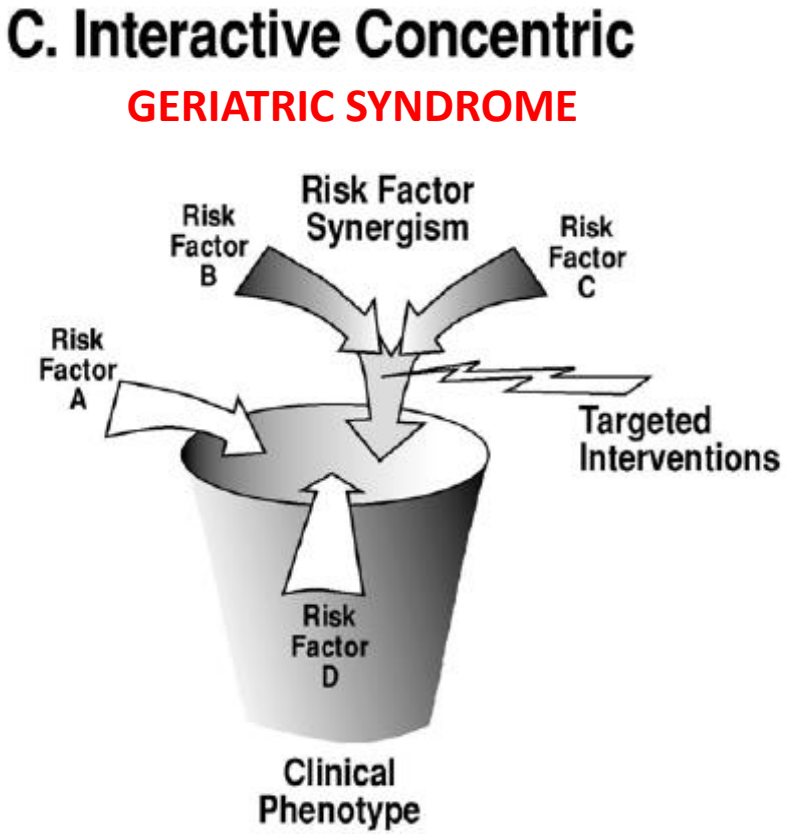
Despite the traditional idea that specific symptoms are uniquely characteristic of a single disease, the co-occurrence of multiple diseases and of other age-associated conditions in older individuals leads to additional clinical phenotypes known as geriatric syndromes.

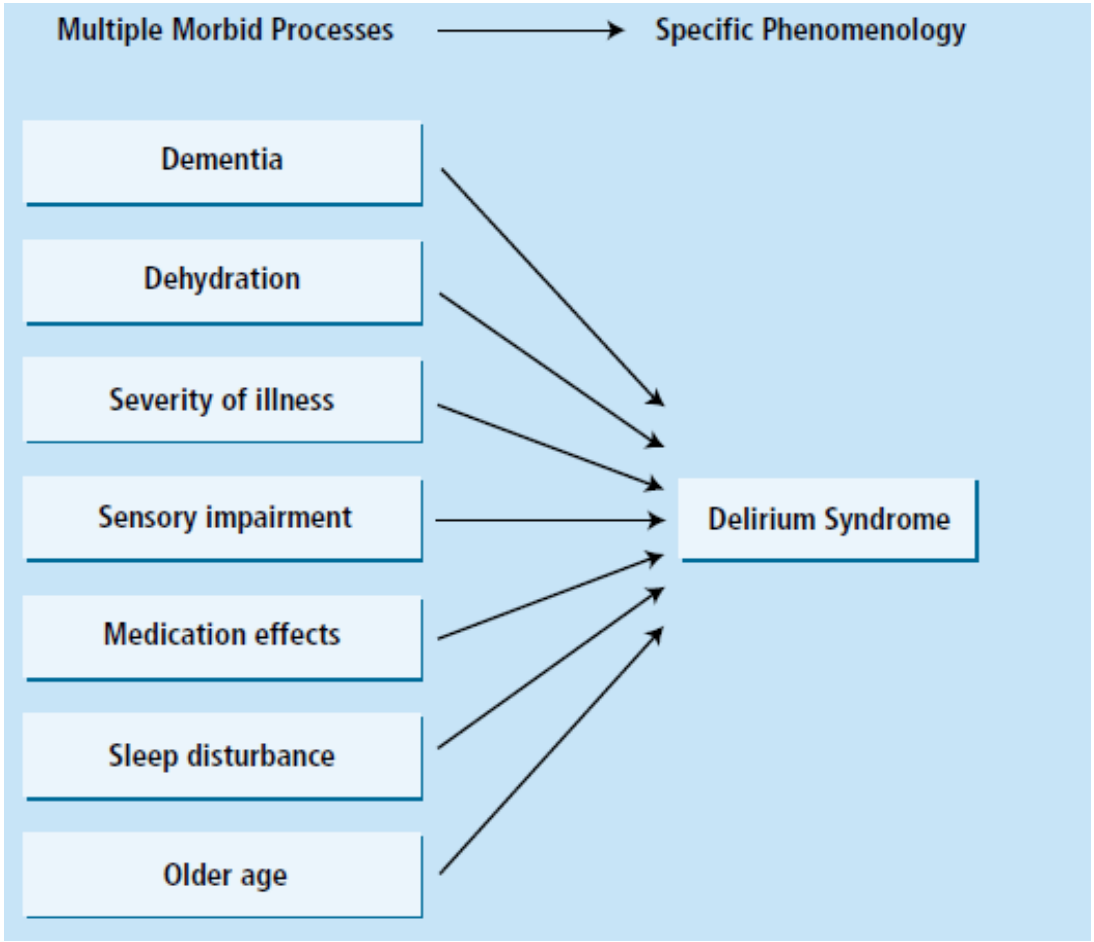
Complex multifactorial geriatric syndromes: the need of a new conceptual model





Complex multifactorial geriatric syndromes: the new conceptual model





Geriatric Syndromes: What are they? (1/2)

- Conditions, not diseases, common in the elderly;
- Typically:
  - Multifactorial
  - Share risk factors
  - Linked with functional decline, increasing frailty and poor health outcomes

Geriatric Syndromes: what are they? (2/2)

Geriatricians have embraced the term ‘‘Geriatric Syndrome,’’using it extensively to highlight the unique features of common health conditions in older people;

In publications, authors claim that all sorts of conditions are a “Geriatric Syndrome”, including, but not limited to, delirium, dementia, depression, dizziness, falls, gait disorders, hearing loss, insomnia, urinary incontinence, malnutrition, pressure ulcers and syncope.

Geriatric Syndrome: Prevalence

- Study of 62,829 Looked at 3 syndroms:
  Falls, Urinary incontinence & Depression
- Community dwelling subjects between 65 – 81 years of age
  - 34.4% had 1 Geriatric Syndrome
  - 8.2 % had 2 or more

European Journal of Internal Medicine 27 (2016) 62–67

Chronic diseases and geriatric syndromes: The different weight of comorbidity

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Hypertension
Osteoarthritis
Diabetes
Dementia
Heart failure
Cerebrovascular disease
COPD
Ischemic heart disease
Atrial fibrillation
Thyroid dysfunction
Cancer
Peripheral artery disease
Glaucoma
Parkinson's disease

Frequencies of Co-occurrence of geriatric syndromes, by disease group

	Pain	Urinary incontinence	Disability	Falls	Dizziness	Weight Loss	Pressure Ulcers	Delirium	no. syndromes	Total no. diseases
Hypertension	51	46	28	35	22	9	5	4	2	3.2
Osteoarthritis	63	49	25	34	25	11	3	3	2.1	3.2
Diabetes	49	48	28	35	25	9	6	4	2	3.4
Dementia	32	55	40	34	16	8	6	10	2	2.9
Heart failure	47	49	31	29	27	11	6	6	2.1	3.4
Cerebrovascular disease	44	55	41	37	25	10	7	7	2.3	3.3
COPD	54	48	26	33	26	12	5	4	2.1	3.4
Ischemic heart disease	53	47	27	39	27	11	6	4	2.1	4.3
Atrial fibrillation	52	46	27	35	27	14	5	4	2.1	3.7
Thyroid dysfunction	54	47	26	37	21	12	2	4	2	3.5
Cancer	50	40	29	28	22	19	5	5	2	2.9
Peripheral artery disease	57	49	26	34	30	11	7	6	2.2	3.8
Glaucoma	53	49	23	36	29	11	3	4	2.1	3.3
Parkinson's disease	43	60	51	41	25	10	9	8	2.5	3.0
>1 disease									2	2.6
>2 diseases									2.1	3.1

The prevalence of geriatric conditions within different disease group is expressed as percentages (%).
No. of geriatric syndromes and diseases are expressed as mean absolute number. No. of diseases include the index disease.
Abbreviations: COPD = chronic obstructive pulmonary disease.

European Journal of Internal Medicine 27 (2016) 62–67

Geriatric Syndromes in COPD Patients

PAIN (54%)

URINARY INCONTINENCE

FALLS

COPD and PAIN

Recent literature indicates that pain is a significant symptom in patients with COPD. Two systematic reviews on patients with end-stage COPD reported **prevalences of pain of 21–77%.** Both these reviews reported only on studies including patients with advanced or terminal disease or studies on palliative care **in patients with very severe COPD;**

Less is known about pain in patients with mild-to-moderate disease

Janssen DJ, Spruit MA, Uszko-Lencer NH, et al. J Palliat Med 2011;14:735–43.

Factors contributing to a higher pain prevalence in COPD patients

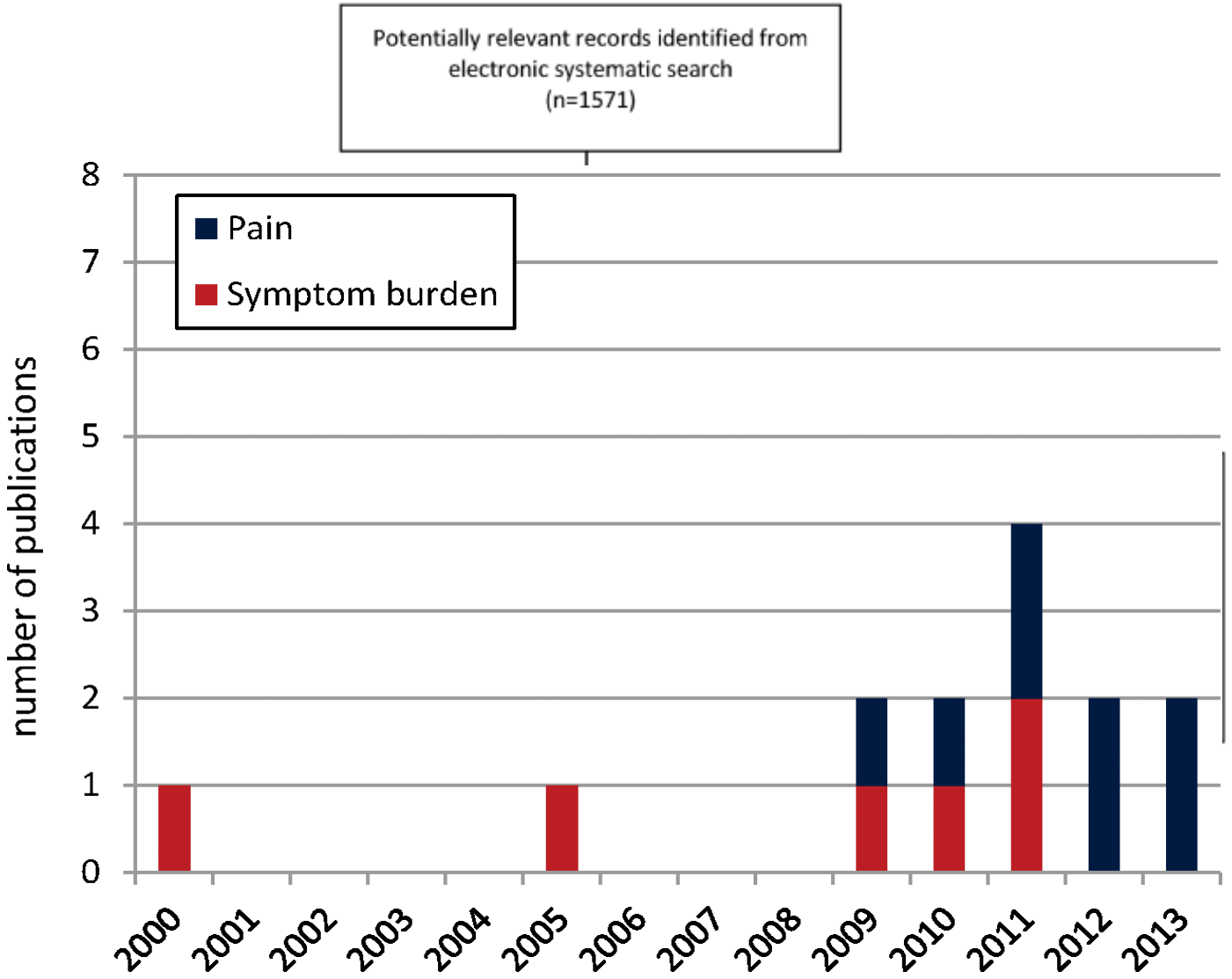
The systemic inflammatory process, which activates cytokines, may generate chronic and neuropathic pain;

Comorbidities and musculoskeletal disorders;
(including mechanical limitations of chest wall movement
due to hyperinflation and osteoporosis);

Inactivity may aggravate common age-related comorbidities such as osteoarthritis and low back pain.

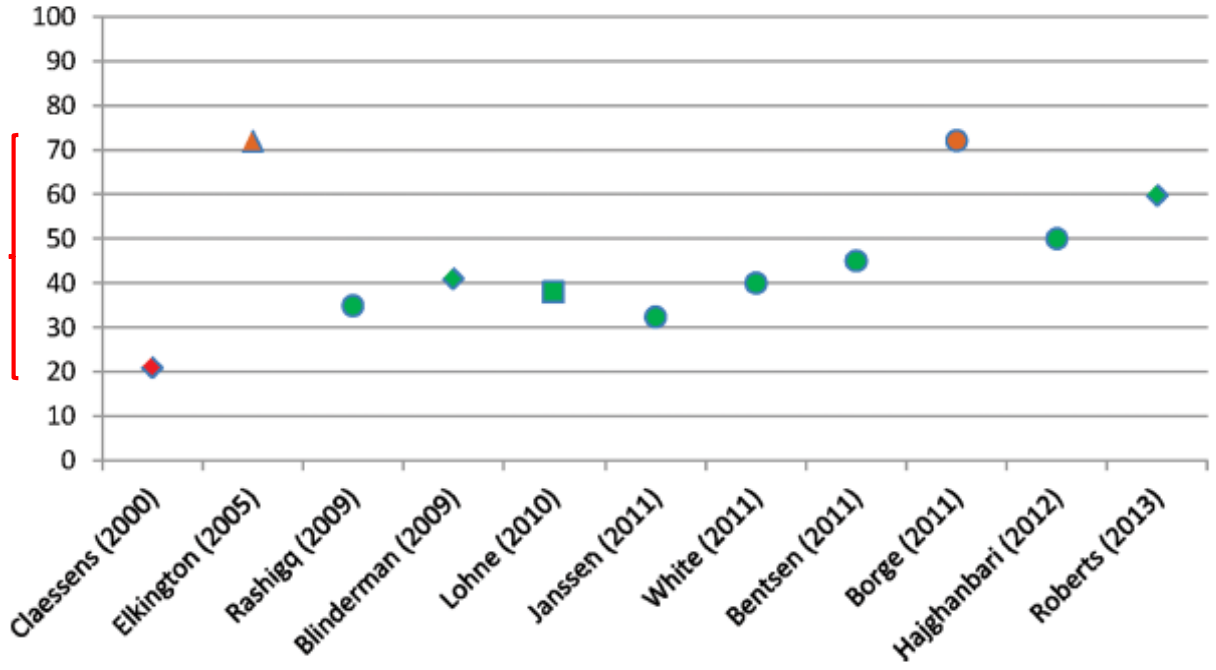
BMJ Open 2014;**4**:e005898. doi:10.1136/bmjopen-2014-005898

BMJ Open Pain in patients with COPD: a systematic review and meta-analysis



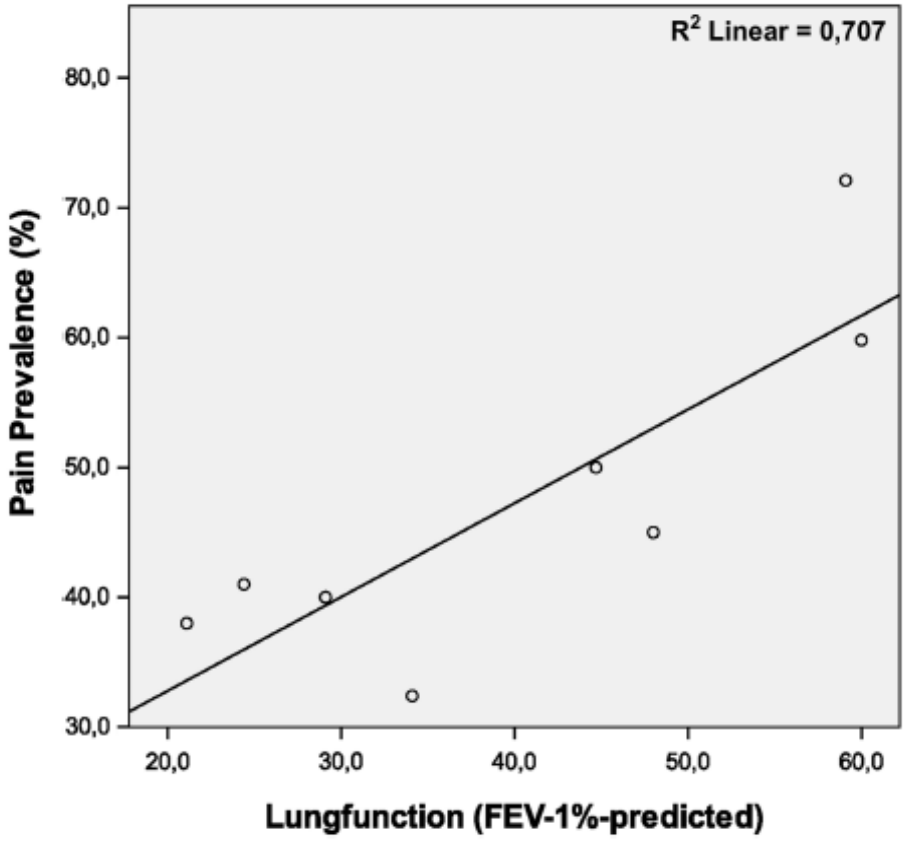
Prevalence of pain: prospective cohort study

♦ cross-sectional study
▪ mixed method
 retrospective postbereavement study
green: Mixed Method Appraisal Tool (MMAT)-score: 100%;
orange: MMAT-score: 75%;
red: MMAT-score: 50%.



Relationship between lung function and pain prevalence

Each data point represents a separate study



r=0.79 (p=0.021)

BMJ Open 2014;**4**:e005898.
doi:10.1136/bmjopen-2014-005898

BMJ Open

Pain in patients with COPD: a systematic review and meta-analysis

Conclusions: Although literature on this topic is limited and shows substantial heterogeneity, pain seems to be a significant problem in patients with COPD and is related to several other symptoms, comorbidity and QoL. Data synthesis suggests that pain is more prevalent in patients with moderate COPD compared to patients with severe or very severe COPD. Further research is needed and should focus on determining a more accurate pain prevalence, investigating the relationship between pain prevalence, disease severity and comorbidity and explore implementation and efficacy of pain management interventions in patients with COPD.

Geriatric Syndromes in COPD Patients

PAIN

URINARY INCONTINENCE (48%)

FALLS

(J Am Board Fam Med 2007;20:608–610.)

Comorbidities Associated with Urinary Incontinence: A Case-Control Study from the Second Dutch National Survey of General Practice

Maaike van Gerwen, MD, François Schellevis, MD, PhD, and Toine Lagro-Janssen, MD, PhD

Purpose: **The aim of this study was to identify which comorbidities are more common in patients with urinary incontinence compared with patients without this diagnosis.**

Design of study: **Case-control study.**

Setting/methods: **The data for this study were obtained from the Second Dutch National Survey of General Practice (DNSGP-2) performed in 2001 and were extracted from the electronic medical records of all patients registered in the participating practices in the year of study (2001).**

The research population consisted of 1707 patients with urinary incontinence (323 men and 1384 women) and a control group of 963 men and 4105 women.

Association Between Urinary Incontinence and Other Diseases in Patients in General Practice, Adjusted for Age and Practice

	Men and Women (n = 1707)		Men (n = 323)		Women (n = 1384)	
Comorbidity	OR	95% CI	OR	95% CI	OR	95% CI
Urinary tract infection	**2.90**	**2.49 to 3.37**	7.07	4.42 to 11.30	2.59	2.20 to 3.04
Genitourinary prolapse	—	—	—	—	**3.88**	**2.70 to 5.60**
COPD	**1.49**	1.15 to 1.93	1.34	0.82 to 2.17	**1.56**	**1.15 to 2.11**
Asthma	1.30	0.99 to 1.70	1.07	0.59 to 1.93	**1.37**	**1.01 to 1.87**
Heart failure	1.51	1.16 to 1.97	**3.15**	**1.90 to 5.21**	1.15	0.84 to 1.58
Diabetes	1.54	1.28 to 1.85	1.47	0.97 to 2.25	**1.55**	**1.26 to 1.91**
Constipation	**1.83**	**1.49 to 2.24**	2.11	1.37 to 3.26	1.76	1.40 to 2.21
Adiposity	1.30	0.62 to 2.75	1.00	0.10 to 9.70	1.35	0.61 to 2.97
Obesity	1.50	0.75 to 3.01	2.99	0.19 to 47.86	1.44	0.70 to 2.96
Depression	**1.81**	**1.45 to 2.26**	2.54	1.42 to 4.53	1.71	1.34 to 2.18

COPD, chronic obstructive pulmonary disease; OR, odds ratio; CI, confidence interval.

doi: 10.3122/jabfm.2007.06.070151

COPD and asthma were significantly associated with urinary incontinence in women but not in men;

Because an increased abdominal pressure, caused by frequent coughing, is related to stress incontinence and stress incontinence affects more women than men, this might be a possible explanation for the difference between genders;

The clinician should be aware that urinary incontinence is associated with COPD and asthma and opens the possibility of asking these patients about urinary incontinence.

International Journal of Urology (2008) 15, 751–753 doi: 10.1111/j.1442-2042.2008.02093.x

Urinary incontinence in men with chronic obstructive pulmonary disease

Fumi Hirayama,[1] Andy H Lee,[1] Colin W Binns,[1] Hiroyuki Taniguchi,[2] Koichi Nishimura[3] and Kumiko Kato[4]

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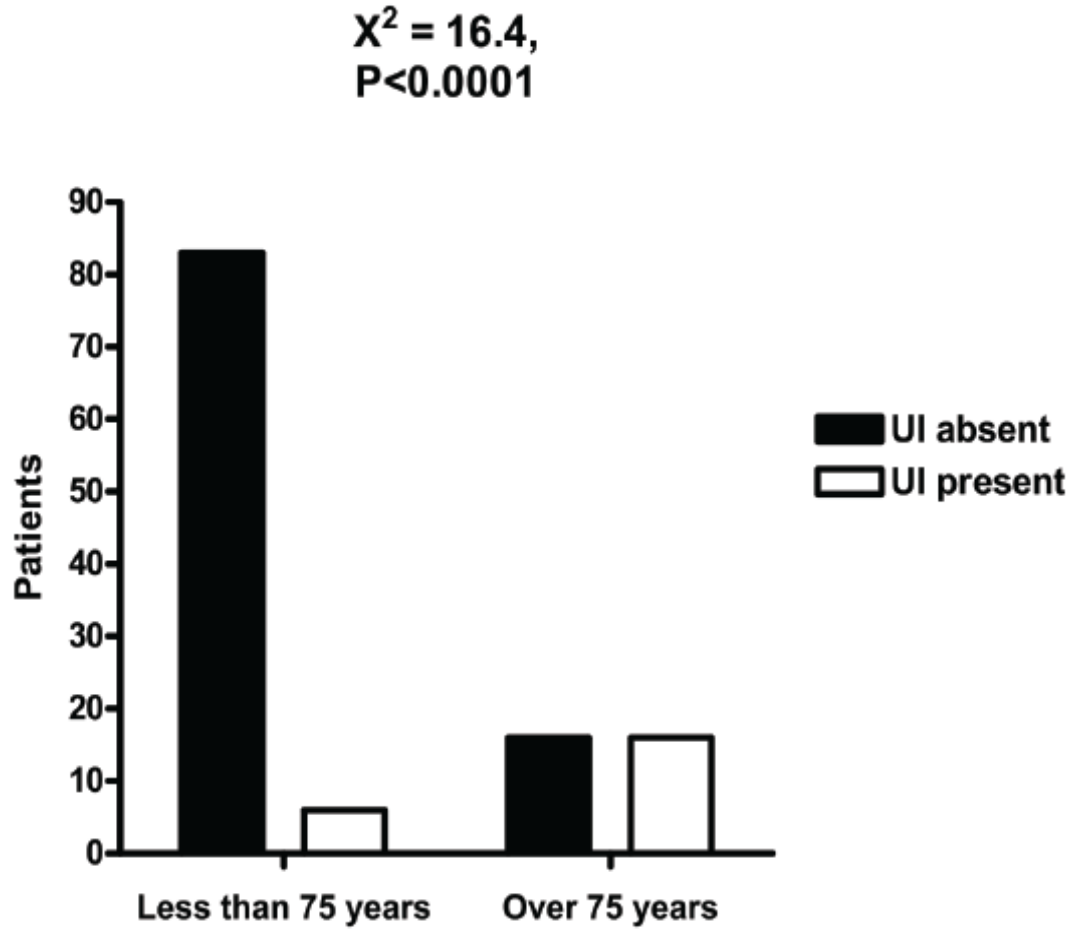
Abstract: This study investigated urinary incontinence in men with chronic obstructive pulmonary disease (COPD). A total of 244 community-dwelling men (mean age 66.5 years) diagnosed with COPD within the past 4 years were recruited from six hospital outpatient departments in central Japan. The prevalence of urinary incontinence was 10% according to the International Consultation on Incontinence criterion. Urine leakage among the 24 incontinent men was typically a small amount (75%) and occurred once a week or less often (58%). Fifteen (63%) of them reported urge incontinence while only two men experienced stress incontinence. On average they had urine leakage for 2.5 (SD 2.3) years and the majority ($n = 19$, 79%) developed the condition after diagnosis of COPD. The finding of higher prevalence of urge incontinence challenges the conventional view that COPD is associated with stress incontinence due to high pressure coughs.

It appears that incontinence developed after the diagnosis of COPD (average duration 2.5 years), but the low number of patients seeking help is of concern;

With the increased disease burden as COPD progresses, education and regular assessment for urinary tract symptoms are needed;

Addressing urge incontinence should become part of the routine management of men with COPD.

Epidemiology and risk factors of urinary incontinence in patients with chronic obstructive pulmonary disease (COPD)



Comparison of non-respiratory features in patients with reported and unreported UI

Feature	UI unreported	UI reported	Significance between groups P value
Mean (SD) Age (years) ★	66.33 (6.8)	76.36 (7.1)	<0.0001
Male: Female (n)	59:40	11:11	0.5
Living alone : living with others (n)	46:53	10:12	0.9
Independently mobile: need assistance with mobility (n) ★	83:16	12:10	0.008
MMT score (number out of 30) ★			
Median	25.0	21.0	<0.0001
Range	16-30	15-29	

Geriatric Syndromes in COPD Patients

PAIN

URINARY INCONTINENCE

FALLS (33%)

Frequent Consequences of the Fall Syndrome in Older People

CONSEQUENCE	
Medical	Hematoma
	Fracture
	Chronic pain
	Death
Psychological	Fear of falling
	Anxiety
	Loss of confidence
	Depression
Social	Dependency
	Isolation
	Placement in long-term care
Functional	Immobility
	Deconditioning
	Disability and dependence

Respir Med. 2009 September ; 103(9): 1257–1269. doi:10.1016/j.rmed.2009.03.022.

Falls in patients with chronic obstructive pulmonary disease: a call for further research

M Roig[1,2], **JJ Eng**[1,3], **DL MacIntyre**[1,3], **JD Road**[4], and **WD. Reid**[1,2]

[1]Department of Physical Therapy, University of British Columbia, Vancouver, Canada

[2]Muscle Biophysics Laboratory, University of British Columbia, Vancouver, Canada

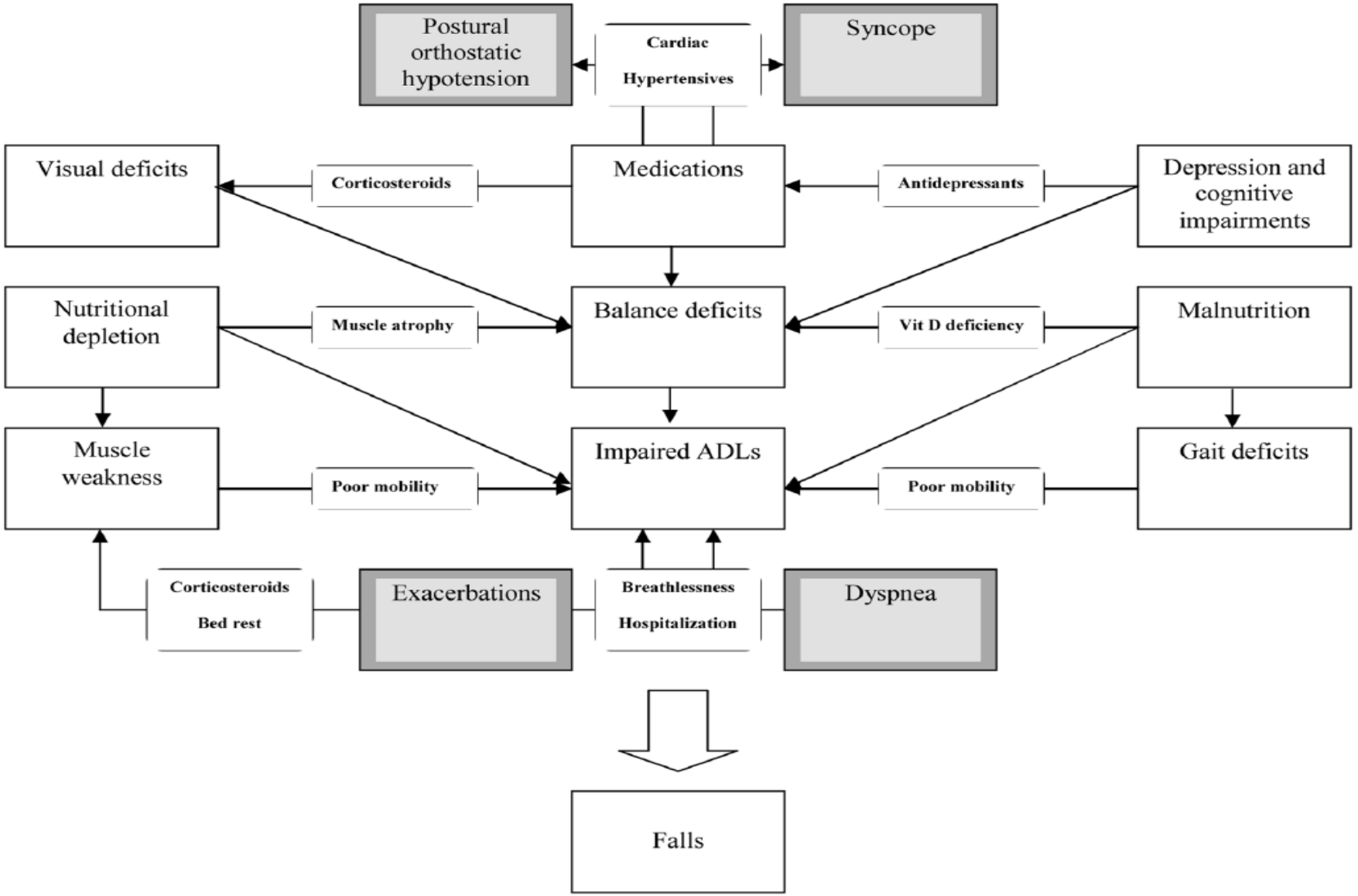
[3]Rehabilitation Research Laboratory, GF Strong Rehabilitation Centre, Vancouver, Canada

[4]Department of Medicine, University of British Columbia, Vancouver, Canada

Summary

Chronic obstructive pulmonary disease (COPD) is a respiratory disease that results in airflow limitation and respiratory distress. The effects of COPD, however, are not exclusively limited to respiratory function and people with COPD face many non-respiratory manifestations that affect both function and mobility. Deficits in function and mobility have been associated with an increased risk for falling in older adults. The purpose of this study was to provide a theoretical framework to identify risks factors for falls in people with COPD. We have analyzed the literature to identify possible relationships between pathophysiological changes observed in COPD and common risk factors for falls. Well-established fall risk factors in people with COPD include lower limb muscle weakness and impaired activities of daily living. Other intrinsic risk factors such as gait and balance deficits, nutritional depletion, malnutrition, depression, cognitive impairments and medications are possible risk factors that need to be confirmed with more studies. There is no evidence that visual deficits are common in COPD. The role that precipitating factors such as syncope and postural hypotension may have on fall risk is unclear. Exacerbations and dyspnea do not have a precipitating effect on fall risk but they contribute to the progressive physical deterioration that may theoretically increase the risk for falls. While these results suggest that people with COPD might have an increased susceptibility to fall compared to their healthy peers, further research is needed to determine the prevalence of falls and specific risk factors for falls in people living with COPD.

Framework of the risk factors for falls in people with COPD and potential interactions



Respir Med. 2009 September ; 103(9): 1257–1269. doi:10.1016/j.rmed.2009.03.022

Respir Med. 2011 March ; 105(3): 461–469. doi:10.1016/j.rmed.2010.08.015.

Falls in people with chronic obstructive pulmonary disease: an observational cohort study

M Roig[1,2], **JJ Eng**[1,3], **DL MacIntyre**[1,3], **JD Road**[4], **JM FitzGerald**[4], **J Burns**[5], and **WD. Reid**[1,2]
[1]Department of Physical Therapy, University of British Columbia, Vancouver, Canada

Study objective—To investigate incidence, risk factors and impact of falls on health related quality of life (HRQoL) in patients with chronic obstructive pulmonary disease (COPD).

Methods—Patients completed these questionnaires at baseline and at 6-months: Medical Outcomes Study Short Form 36 (SF-36), Chronic Respiratory Questionnaire (CRQ), Activities

Conclusions—Patients with COPD have a high susceptibility to falls, which is associated with a worsening of dyspnea perception as related to HRQoL. Fall prevention programs in COPD are recommended.

fallers (0 falls) or fallers (≥1 falls).

Results—Data from 101 patients with a forced expiratory volume in one second of 46.4±21.6% predicted were analyzed. Thirty-two patients (31.7%) reported at least one fall during the 6-months. Fall incidence rate was 0.1 (95% CI:0.06 to 0.14) falls per person-month. Fallers tended to be older (p=0.04), female (p=0.04) and oxygen dependent (p=0.02), have a history of previous falls (p<0.001), more co-morbidities (p=0.007) and take more medications (p=0.001). Previous falls (OR=7.36; 95% CI:2.39 to 22.69) and diagnosis of coronary heart disease (OR=7.07; 95% CI:2.14 to 23.36) were the most important predictors of falls. The Dyspnea Domain of the CRQ declined significantly more (p=0.02) in the fallers group at 6-months.

PLOS | ONE

RESEARCH ARTICLE

Balance Impairment in Patients with COPD

Citation: Crişan AF, Oancea C, Timar B, Fira-Mladinescu O, Tudorache V (2015) Balance Impairment in Patients with COPD. PLoS ONE 10(3): e0120573. doi:10.1371/journal.pone.0120573

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Published: March 13, 2015

Background/Purpose

Chronic obstructive pulmonary disease (COPD) is a respiratory disease that results in progressive airflow limitation and respiratory distress. Physiopathological features of COPD suggest that people who suffer from this disease have many risk factors for falls that have been identified in older individuals. The aim of the study was to compare and quantify functional balance between COPD patients and healthy subjects; to investigate the risk of falls in acute stages of the disease and to identify risk factors that could lead to falls.

Methods

We studied 46 patients with moderate-severe COPD (29 stable and 17 in acute exacerbation - AECOPD) and 17 healthy subjects (control group) having similar demographic data. We analyzed the difference in Berg Balance Scale (BBS), Single Leg Stance (SLS) and Timed Up and Go test (TUG) between these three groups and the correlation of these scores with a number of incriminatory factors.

Balance Impairment in Patients with COPD

Alexandru Florian Crişan[1], Cristian Oancea[1]*, Bogdan Timar[2], Ovidiu Fira-Mladinescu[1], Voicu Tudorache[1]

1 Department of Pulmonology, University of Medicine and Pharmacy "Victor Babes", Timisoara, Romania,
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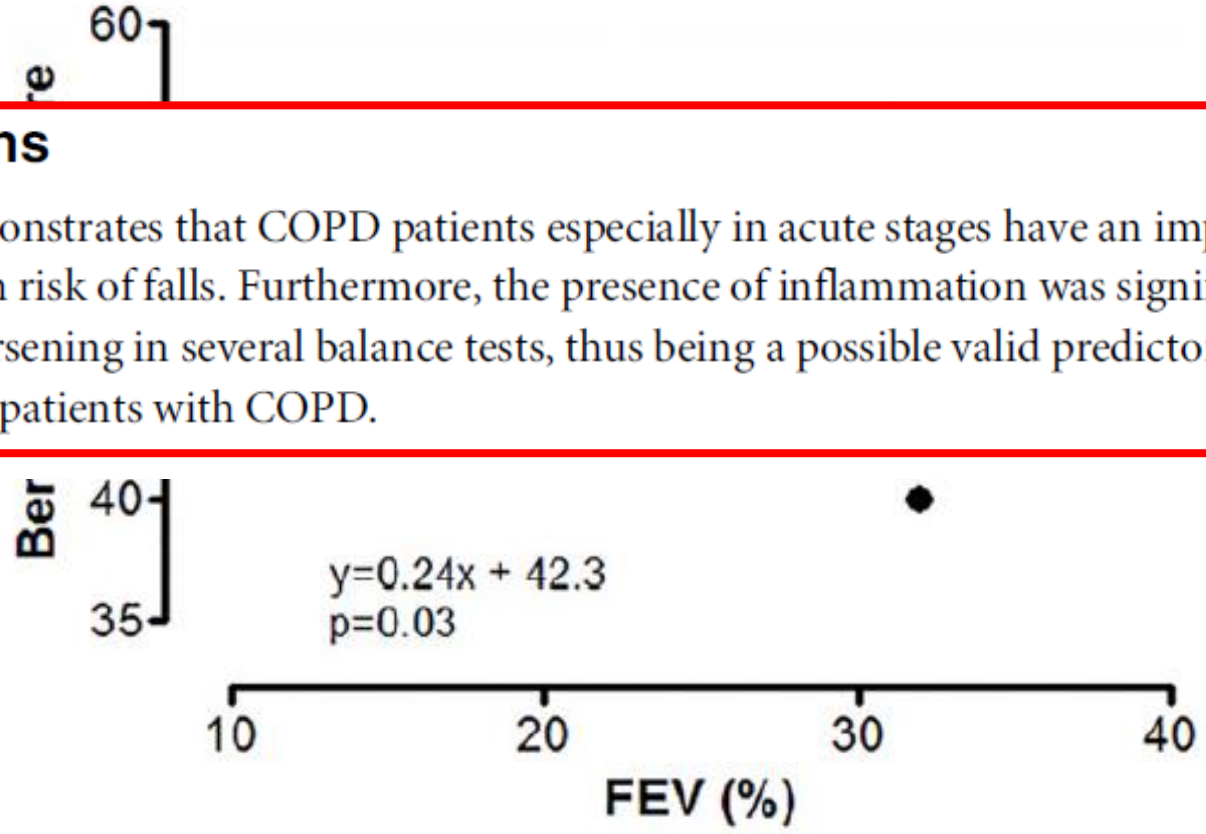

Conclusions

Our study demonstrates that COPD patients especially in acute stages have an impaired balance and a high risk of falls. Furthermore, the presence of inflammation was significantly associated with worsening in several balance tests, thus being a possible valid predictor for balance impairment in patients with COPD.

AJRCCM Articles in Press. Published on 27-January-2017 as 10.1164/rccm.201701-0218PP

Global Strategy for the Diagnosis, Management, and Prevention of Chronic Obstructive Lung Disease 2017 Report

GOLD Executive Summary

Claus F. Vogelmeier[1*], Gerard J. Criner[2*], Fernando J. Martinez[3*], Antonio Anzueto[4], Peter J. Barnes[5], Jean Bourbeau[6], Bartolome R. Celli[7], Rongchang Chen[8], Marc Decramer[9], Leonardo M. Fabbri[10], Peter Frith[11], David M. G. Halpin[12], M. Victorina López Varela[13], Masaharu Nishimura[14], Nicolas Roche[15], Roberto Rodriguez-Roisin[16], Don D. Sin[17], Dave Singh[18], Robert Stockley[19], Jørgen Vestbo[18], Jadwiga A. Wedzicha[20] and Alvar Agusti[21].

Abstract

This Executive Summary of the Global Strategy for the Diagnosis, Management, and Prevention of COPD (GOLD) 2017 Report focuses primarily on the revised and novel parts of the document. The most significant changes include: i) the assessment of COPD has been refined to separate the spirometric assessment from symptom evaluation. ABCD groups are now proposed to be derived exclusively from patient symptoms and their history of exacerbations; ii) for each of the groups A to D, escalation strategies for pharmacological treatments are proposed; iii) the concept of de-escalation of therapy is introduced in the treatment assessment scheme; iv) nonpharmacologic therapies are comprehensively presented and; v) the importance of comorbid conditions in managing COPD is reviewed.

FINANCIAL DISCLOUSURE

Giorgio Annoni: anno 2016

AbbVie
Astellas Pharma
Bayer