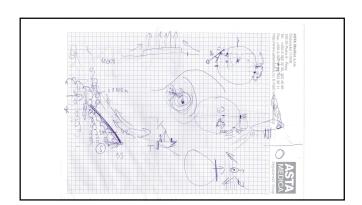
Význam spirometrie v diagnostice a sledování pacientů s CHOPN

> Vladimír Koblížek Hradec Králové

Agenda

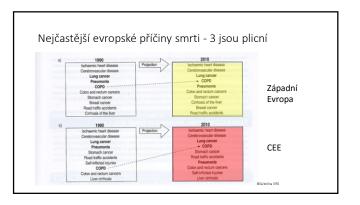
- Význam respiračních chorob
- Diagnostika CHOPN
- Vztah spirometrie a jiných parametrů
- Souvislosti FEV₁, FVC s jinými orgány
- Význam spirometrie pro prognózu

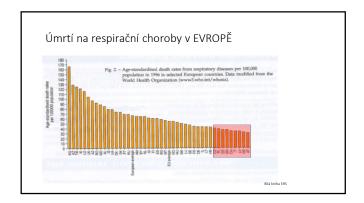


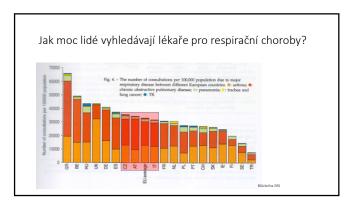


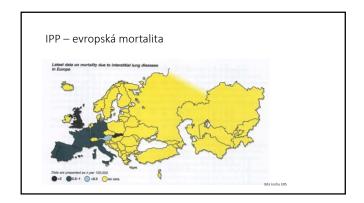


Význam respiračních chorob



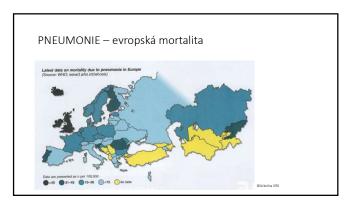




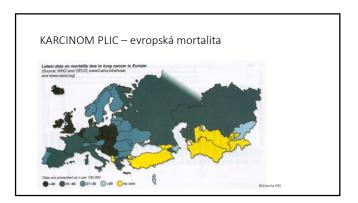












Diagnostika CHOPN

Pod-diagnostikovanost CHOPN

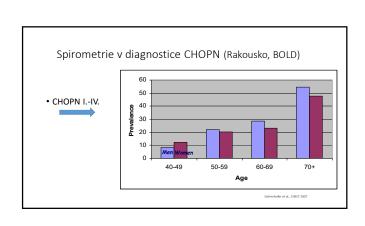
- Mezi kuřáky > 40 let bez diagnózy CHOPN trpí CHOPN každý pátý
- Mezi dospělými > 40 let s diagnózou astmatu má každý třetí CHOPN

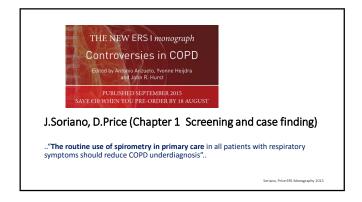
inkelman J Asthma 2006

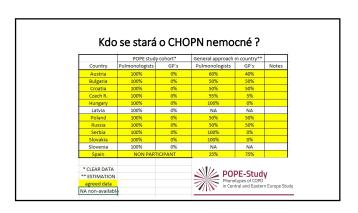
Spirometrie jako nástroj prevence CHOPN

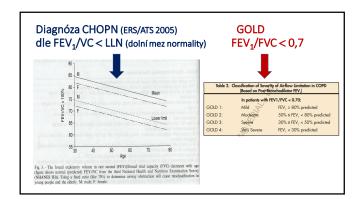
- Primární (aby CHOPN nevznikla) boj proti rizikům v rámci celé populace, pre-BD spirometrie
- Sekundární (aby byla CHOPN dg.časně) pre-BD spirometrie nebo post-BD spirometrie s dotazníky, 2 způsoby "HIGH-RISK APPROACH" (case finding) versus "POPULATION SCREENING"
- Terciální (adekvátní léčba existující CHOPN) post-BD spirometrie s dotazníky

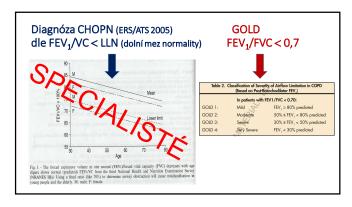
Soriano, Price ERS Monography 2015

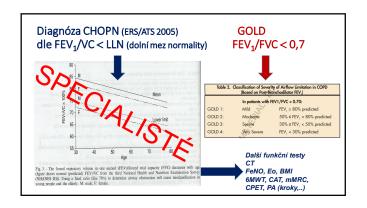




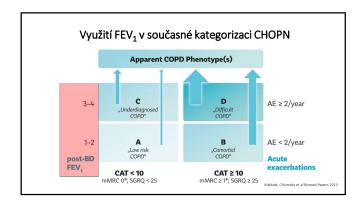








·uvoc				diagno	setiky (CHOP	V
Country, institution	Spain, GeEPOC	Couch,CPFS	Finland,FMSD/FRS	Institutes/Note	Saudi,575	Global/GOLD	•
Guided by	Phenotypes alone	GOLD* and phenotypes	GOLD** and phenotypes	GOLD and phenotypes***	Three phenotypic classes****	GOLD alone	
Mainly focused on	GF's + PF's	PF's	GP's	GP's	GP's + IN's	GP's + PF's	
Valid since	2012	2013	2014	2013	2014	2015	
Spirometry post-80	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	
Airflow limitation definition	FEV:/FNC < 0.7	FEV./VC < LLN	FEV:/FVC < 0.7	FEV:/PVC < LLNP	FEV_/FVC < 0.7	FEV_/FVC < 0.7	
Frequent exacerbator means	≥ 2/year	≥ 2/year	2 2/year or 21/year leading to hospital admission	≥ 2/year	2 2/year or 2 1/year leading to hospital admission	2 2/year or 22/year leading to hospital admission	
High level of symptoms	CAT ≥ 10 (mMRC ≥ 2)	CAT ≥ 10 (mMRC ≥ 1)	CAT≥ 10	mMRC ≥ 2 (CAT ≥ 10)	CAT ≥ 10	CAT ≥ 10 or mMRC ≥ 2	
Smoking cessation	Mandatory	Mandatory	Mandatory	Mandatory*	Mandatory**	Mandatory	
BD's role	Mandatory	Mandatory	Mandatory	Mandatory short- acting only, long- acting for moderate and severe categories	Mandatory	Mandatory	Koblizek. Novotna in press

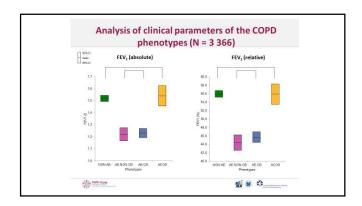


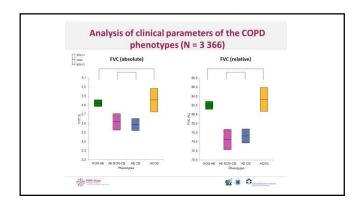
Kontroverze provázející spirometrii při dg.CHOPN

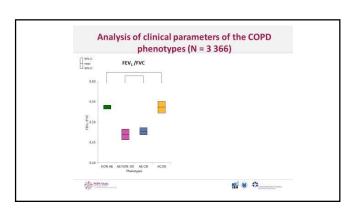
- Pre-BD či Post-BD (200,300,400ml reverzibilita ?, 40-80mcg ipratropia, 100-400 mcg salbutamolu, 10-30 minut)
- Lokální náležité hodnoty (nejsou)
- Kontrola kvality (≥ 20% pacientů v těch nejlepších laboratořích má špatnou kvalitu spirometrické křivky – nevzdělanci, ženy, senioři s těžkou obstrukcí)
- Spirometrie mimo PNE lékárny nebo internisté nebo PL

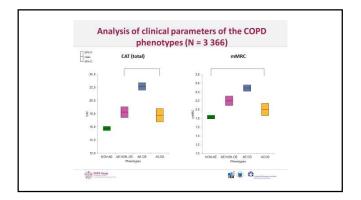
Soriano, Price ERS Monography 2015

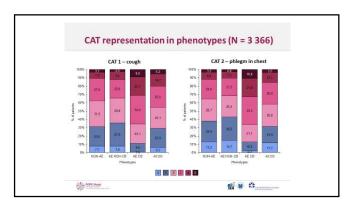
Vztah spirometrie a jiných parametrů

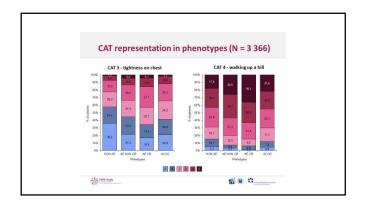


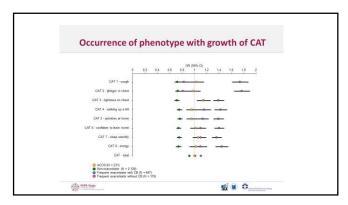


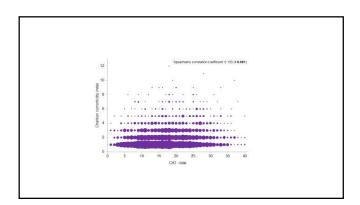












Souvislosti FEV₁, FVC s jinými orgány

Z Gerontol Geriatr. 2015 Oct 27. [Epub ahead of print]

s : Data from the Berlin

rticle in German] Ichmann N¹, Norman K², Steinhagen-Thiessen E², Demuth I^{2,3}, Eckardt R².

Pre-BD spirometrie

Abstract

ABACKGROUND: Previous studies have indicated a relationship between type II diabetes (TZD), metabolic syndrome (MetS) and pulmonary function

the pathological mechanism responsible remains unclear. The aim of the current analysis within the Betin Aging Study II (BASE-II) was to

revestigate the influence of abdominal obesity and muscle mass on pulmonary function in subjects with T2D and MetS.

MATERIAL AND METHODS: A prebronchodilator pulmonary function test was carried out in 1369 subjects from the BASE-II (mean age 69 ± 4 years, 51.6 % women) where T20 was defined according to the German Diabetes Association (DOG) criteria, MetS according to the criteria of th International Diabetes Federation (IDF). American Heart Association (ARI) and National Heart, Lung and Blood Institute (RHIB). Excited from 25 and pulmonary obstruction loostructive lung disease. OLD) by the Global Initiative for Chronic Obstructive Lung Disease (GOLD) criteria of a for expiratory volume in 1 s (FEV) and forced vibit capacity (FVC) rails c 70° and provided to the contractive Chronic Obstructive Lung Disease (GOLD) criteria of a for expiratory volume in 1 s (FEV) and Groce vibit alcapacity (FVC) rails c 70° and (FVC) r

RESULTS: Of the subjects 50.9% achieved a sufficient level of quality according to the GOLD guidelines and were analyzed with respect to the research question. The FEV1 and FVC were decreased in study participants with T2D and MetS and the lung volume decreased with an increasi number of MetS criteria. Parameters of body composition, such as waist circumference and muscle mass had a significant influence on lung volumes, independent of MetS or 12D.

DISCUSSION: In its study MES and T2D were associated with decreased lung volumes; however, muscle mass and abdominal obe be the most important factors influencing pulmonary function and could thus form the link between pulmonary function and MeS or T2 Measurement of grip strength for the determination of muscle mass and waist circumference for determining abdominal obesity could the interpretation of the results of pulmonary function tests.

Serontol Geriatr. 2015 Oct 27. [Epub ahead of p

[Pulmonary function in elderly subjects with metabolic syndrome and type II diabetes : Data from the Berlin Aging Study II].

uticle in German] uchmann N¹, Norman K², Steinhagen-Thiessen E², Demuth I^{2,3}, Eckardt R².





Abstract
AACKGROUND: Previous studies have indicated a relationship between type II diabetes (T2D), metabolic syndrome (MetS) and pulmonary fund the pathological mechanism responsible remains unclear. The aim of the current analysis within the Berlin Aging Study II (BASE-II) was to the pathological mechanism responsible remains unclear. The aim of the current analysis within the Berlin Aging Study II (BASE-II) was to the studies of the s

MATERIAL AND METHODS: A prebronchodilator pulmonary function test was carried out in 1369 subjects from the BASE-II (mean age 59 ± 4 the lyears, 51 6% women) where 17D was defined according to the German Diabetes Association (DDC) orienta. Met according to the criteria of the international Diabetes Federation (DF). American Heart Association (AHA) and National Heart, Lung and Blood institute (NHLB) criteria from 2005 and pulmonary obstruction (obstructive lung disease. OLD) by the cilobal initiative for Chronic Obstructive Lung Disease (GOLD) criteria of a force expiratory volume in 1 st (EFV) and forced vital capacity (FV) craft or 70%

explanally volument in Sur Let and locked with a appearly (IV-V) and VIV-V a

DISCUSSION: In this study MetS and T2D were associated with decreased lung volumes; however, muscle mass and abdominal ob be the most important factors influencing pulmonary function and could thus form the link between pulmonary function and MetS or Measurement of grip strength for the determination of muscle mass and waist circumference for determining abdominal obesity could the interpretation of the results of pulmonary function tests.

[Pulmonary function in elderly subjects with metabolic syndrome and type II diabetes : Data from the Berlin Aging Study II].

rticle in German] cchmann N¹, Norman K², Steinhagen-Thiessen E², Demuth I^{2,3}, Eckardt R².



Abstract
ABACKGROUND: Previous studies have indicated a relationship between type II diabetes (TZD), metabolic syndrome (MetS) and pulmonary func but the pathological mechanism responsible remains unclear. The aim of the current analysis within the Berlin Aging Study II (BASE-II) was to meetigate the influence of addominal obselty aid muscle mass on pathonary function in subjects with T2D and MetS.

MATERIAL AND METHODS: A prebronchodilator pulmonary function test was carried out in 1309 subjects from the BASE-II meen age 592 at years, 51.6 % women) where T2D was defined according to the German Diabetes Association (DOS) criteria, Mets according to the criteria of this international Diabetes Federation (IDF). American Heart Association (ARIA) and National Heart. Lung and Blood Institute (NRLB) criteria from 201 and pulmonary obstructive long disease. OLID) were Global Initiative for Chronic Obstructive Lung Disease (GOLD) criteria of a for expiratory volume in 1 or [FEV] and forced vital capacity (FVC) ratio c 70%.

RESULTS: Of the subjects 50.9% achieved a sufficient level of quality according to the GOLD guidelines and were analyzed with respect to the research question. The FEV1 and FVC were decreased in study participants with T2D and MeS and the lung volume decreased with an increasi mumber of MeIS criteria. Parameters of body composition, such as waist circumference and muscle mass had a significant influence on lung volumes, independent of MeIS or 12D.

DISCUSSION: In this study MeS and T2D were associated with decreased lung volumes; however, muscle mass and abdominal obesity probe the most important factors influencing pulmonary function and could thus form the link between pulmonary function and MeS or T2D.

Measurement of grip strength for the determination of muscle mass and waist circumference for determining abdominal obesity could contrib the interpretation of the results of pulmonary function tests.

[Pulmonary function in elderly subjects with metabolic syndrome and type II diabetes : Data from the Berlin Aging Study II].

rticle in German] schmann N¹, Norman K², Steinhagen-Thiessen E², Demuth I^{2,3}, Eckardt R².



ASSIACKOROUND: Previous studies have indicated a relationship between type II diabetes (T2D), metabolic syndrome (MetS) and pulmonary fun ut the pathological mechanism responsible remains unclear. The aim of the current analysis within the Berlin Aging Study II (BASE-II) was to weetigate the influence of abdominal obselty and muscle mass on pulmonary function in subjects with T2D and MetS.

MATERIAL AND METHODS: A prebronchodilator pulmonary function test was carried out in 1369 subjects from the BASE-II (mean age 69 ± 4 the large of the summer) where T2D was defined according to the German Diabetes Association (DDS) criteria. Med Saccording to the criteria of the international Diabetes Federation (DF). American Heart Association (AHA) and National Heart. Lung and Blood Institute (NFLB) criteria from 200 and pulmonary obstruction (obstructive lung disease. OLD) by the Global Initiative for Chronic Obstructive Lung Disease (GOLD) criteria of a force expiratory volume in 1 is TEVI and forced vital capacity (FVC) ratio < 70.

ESULTS: Of the subjects 50.9 % achieved a sufficient level of quality according to the GOLD guidelines and were analyzed with respect to research question [The EPV1 and EVC were decreased in study participants with T2D and MMS] and the lung volume decreased with an incremumber of MetS criteria. Parameters of body composition, such as waist circumference and muscle mass had a significant influence on lung volumes, independent of MetS or T2D.

Volumes, independent or lears or LL.

SIGNEDUSINGN: In this study, MeIS and T2D were associated with decreased lung volumes; however, muscle mass and abdominal obesity proved to be the most important factors influencing pulmonary function and could thus form the link between pulmonary function and MeIS or T2D.

Measurement of give strength for the determination of muscle mass and waist circumference for determining abdominal obesity could contribute to the interpretation of the results of pulmonary function tests.

[Pulmonary function in elderly subjects with metabolic syndrome and type II diabetes : Data from the Berlin Aging Study II].

rticle in German] schmann N¹, Norman K², Steinhagen-Thiessen E², Demuth I^{2,3}, Eckardt R².

ABSTRICE

ABSKKGROUND: Previous studies have indicated a relationship between type II diabetes (T2D), metabolic syndrome (MetS) and pulmonary functio but the pathological mechanism responsible remains unclear. The aim of the current analysis within the Berlin Aging Study II (EASE-II) was to investigate the influence of abdominal obesity and muscle mass or pulmonary function in sulgicise with T2D and March.

MATERIAL AND METHODS: A prebronch-odilator pulmonary function test was carried out in 1369 subjects from the BASE-II (mean age 69±4 years, 51.6 % women) where T2D was defined according to the German Diabetes Association (DG2) criteria, MetS according to the criteria of II international Diabetes Federation (DF). American Heart Association (AHA) and National Heart Lung and Blood institute (NHLB) criteria from 20 and pulmonary obstruction (obstructive lung disease. OLD) by the Global Initiative for Chronic Obstructive Lung Disease (GGLD) criteria of a for expiratory volume in 1 s (FEV) and forced vibil capacity (CPV) raise 2 ng.

RESULTS: Of the subjects 50.9% achieved a sufficient level of quality according to the GOLD guidelines and were analyzed with respect to the research question. The FEV1 and FVC were decreased in study participants with T2D and MetS and the lung volume decreased with an increase manker of MetS criteria. Parameters of body composition, such as waist circumference and muscle mass had a significant influence on lung volumes, independent of MetS or 12D.

Volumes, independent or least or L2U. DISCUSSION: In this study MeS and T2D were associated with decreased lung volumes; however, muscle mass and abdominal obesity proved to be the most important factors influencing pulmonary function and could thus form the link between pulmonary function and MeS or T2D Measurement of grip strength for the determination of muscle mass and waist circumference for determining abdominal obesity could contribute to the interpretation of the results of pulmonary function tests.

Serontol Geriatr. 2015 Oct 27. [Epub ahead of pri

[Pulmonary function in elderly subjects with metabolic syndrome and type II diabetes : Data from the Berlin Aging Study II].

Article in German]
uchmann N¹, Norman K², Steinhagen-Thiessen E², Demuth I^{2,3}, Eckardt R².



Abstract
AACKGROUND: Previous studies have indicated a relationship between type II diabetes (TZD), metabolic syndrome (MetS) and pulmonary fund
the pathological mechanism responsible remains unclear. The aim of the current analysis within the Berlin Aging Study II (BASE-II) was to
westigate the influence of abdominal obeelty and muscle mass on pulmonary function in subjects with TZD and MetS.

Table 1. The provided in the Influence of abdominal obeelty and muscle mass on pulmonary function in subjects with TZD and MetS.

MATERIAL AND METHODS: A prebronchodilator pulmonary function test was carried out in 1399 subjects from the BASE-II (mean age 69± 4 hyears, 51.6 % women) where TZD was defined according to the German Dilabetes Association (DDG) criteria, Met Saccording to the criteria of the international Dilabetes Federation (DIP). American Heart Association (AHA) and National Heart. Lung and Blood Institute (NHLB) criteria from 200 and pulmonary obstruction (obstructive lung disease. QLID) by the Global Initiative for Chronic Obstructive Lung Disease (GOLID) criteria of a force expiratory volume in 1 s (FEV) and forced vibal capacity (FVC) ratio < 70%.

RESULTS: Of the subjects 50.9% achieved a sufficient level of quality according to the GOLD guidelines and were analyzed with respect to the research question. The FEVT and FVC were decreased in study participants with T2D and MetS and the lung volume decreased with an increasi number of MetS criteria. Parameters of body composition, such as waist circumference and muscle mass had a significant influence on lung volumes, independent of MetS or T2D.

Význam spirometrie pro prognózu

Význam spirometrie pro prognózu

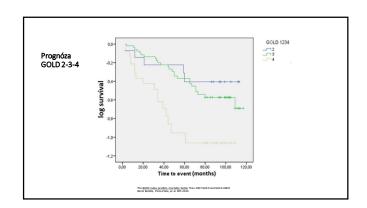
2,9 milionů úmrtí / rok ve světě 3,500 úmrtí / rok v ČR

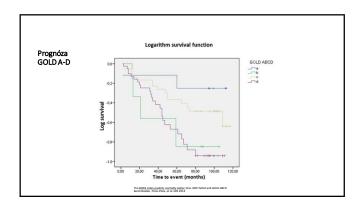
V roce 2030

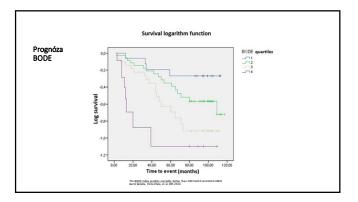
- 7,8 % všech úmrtí CHOPN
- 27 % úmrtí souvisejících s kouřením
- CHOPN nezávislý rizikový faktor úmrtí na ICHS nebo Ca plic

V roce 2015

- Výskyt 8-10% populace ≥ 40 let
- "Global underdiagnosis" 80 % (72 % ... 92,5 %)
- EU 28 505.000.000 (23.000.000 GOLD 2-3-4 a 17.000.000 GOLD 1)
- EU underdiagnosis 70 % hledáme 28.000.000 nemocných v EU







Závěr

- Jen **30-50**% osob s CHOPN má tuto dg. potvrzenou spirometrii
- Spirometrický skrínink symptomatických osob v riziku (kuřáci nebo lidé co změnili někdy zaměstnání kvůli respiračním obtížím)
- Spirometrická kontrola osob s CHOPN vždy po 6-12 M (pravidelně)
- Spirometrická data ukazují na OVP, motoriku bronchů a současně na kardiovaskulární status
- Spirometrie je součásti kompozitních indexů
- Nutné posouzení **kvality a dobrá interpretace** výsledků