



Tuberculosis pulmonar y EPOC

¿Asociación?
¿Relación causa-efecto?

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Tuberculosis y EPOC

¿Asociación?

¿Relación causa-efecto?

1. Asociación. Tabaco.

2. Relación causa-efecto.

a) La TB como causa de EPOC

b) Factores de riesgo de TB en los pacientes
con EPOC

¿Comorbilidad asociada?

**Conflicto de intereses: fondos por colaboraciones ponencias o asistencias a congresos de:
Almirall, Boheringer, Chiesi, GSK, Menarini**



Tuberculosis

- La OMS declaró el 1993 la TB una emergencia global.
- A nivel mundial, 8.7 millones de casos nuevos de TB activa en 2011.
- El 62% de los casos de TB son de afectación pulmonar. Rose et al 2011
- Entre la población con TB latente, un 10% la activaran a lo largo de su vida, aumentando al 50% en los pacientes inmunocompromidos. Dyet et al 1999
- La TB es responsable de unos 2 millones de muertes por año. Dyet et al 1999



Rose et al 2011



Tuberculosis y EPOC asociación

TB	EPOC
Aumento incidencia 7ª causa de muerte 2020 13ª causa de DAYL's 2010	Aumento prevalencia 3ª causa de muerte 2020 9ª causa de DAYL's 2010
Predomina en jóvenes	Edad > 40 años

1990 Mean rank (95% UI)

1.0 (1-2)	1 Ischemic heart disease
2.0 (1-2)	2 Stroke
3.0 (3-4)	3 Lower respiratory infections
4.0 (3-4)	4 COPD
5.0 (5-5)	5 Diarrheal diseases
6.1 (6-7)	6 Tuberculosis
7.3 (7-9)	7 Preterm birth complications
8.6 (7-12)	8 Lung cancer
9.4 (7-13)	9 Malaria
10.4 (8-14)	10 Road injury
15.8 (13-19)	15 Diabetes
35.3 (28-40)	35 HIV/AIDS

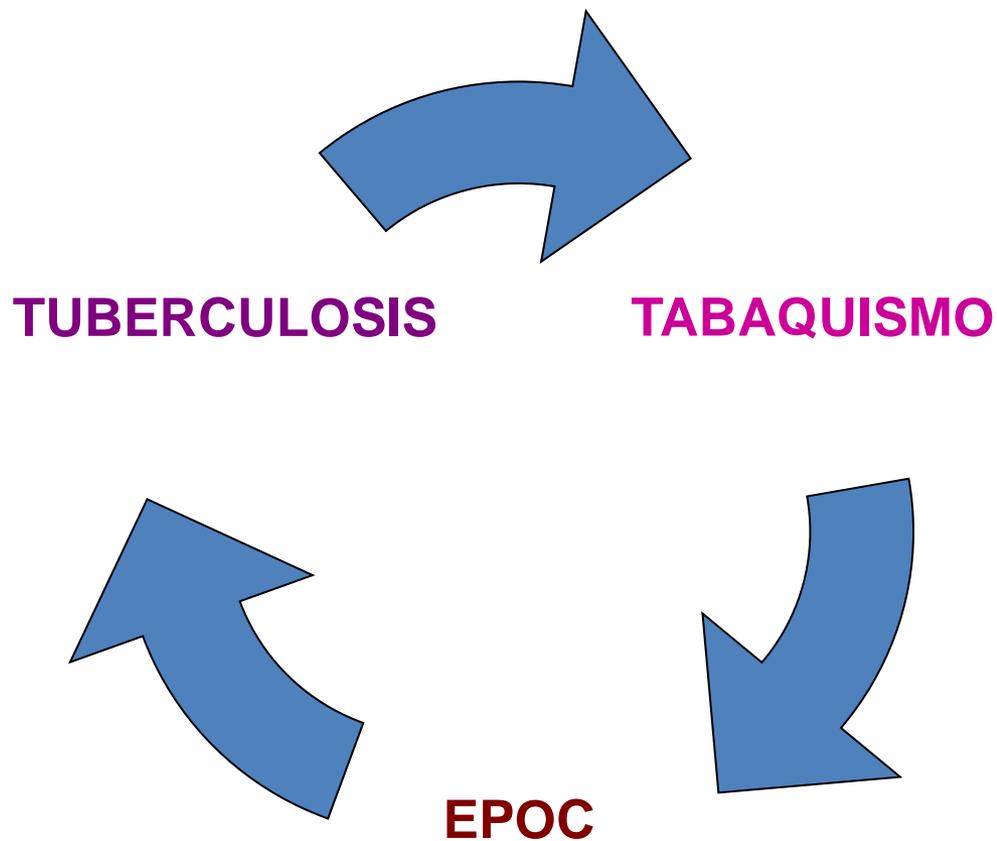
2010 Mean rank (95% UI)

2010 Mean rank (95% UI)	Median % change (95% UI)
1 Ischemic heart disease	1.0 (1-1) 35% (29 to 39)
2 Stroke	2.0 (2-2) 27% (14 to 32)
3 COPD	3.4 (3-4) -7% (-12 to 0)
4 Lower respiratory infections	3.6 (3-4) -18% (-24 to -11)
5 Lung cancer	5.8 (5-10) 51% (24 to 61)
6 HIV/AIDS	6.4 (5-8) 395% (323 to 465)
7 Diarrheal diseases	6.7 (5-9) -42% (-49 to -34)
8 Road injury	8.4 (5-11) 46% (18 to 86)
9 Diabetes	9.0 (7-11) 95% (68 to 102)
10 Tuberculosis	10.1 (8-13) -17% (-35 to -3)
11 Malaria	10.3 (6-13) 20% (-9 to 56)
15 Preterm birth complications	14.4 (12-18) -29% (-39 to -17)

<http://vizhub.healthdata.org/irank/arrow.php>

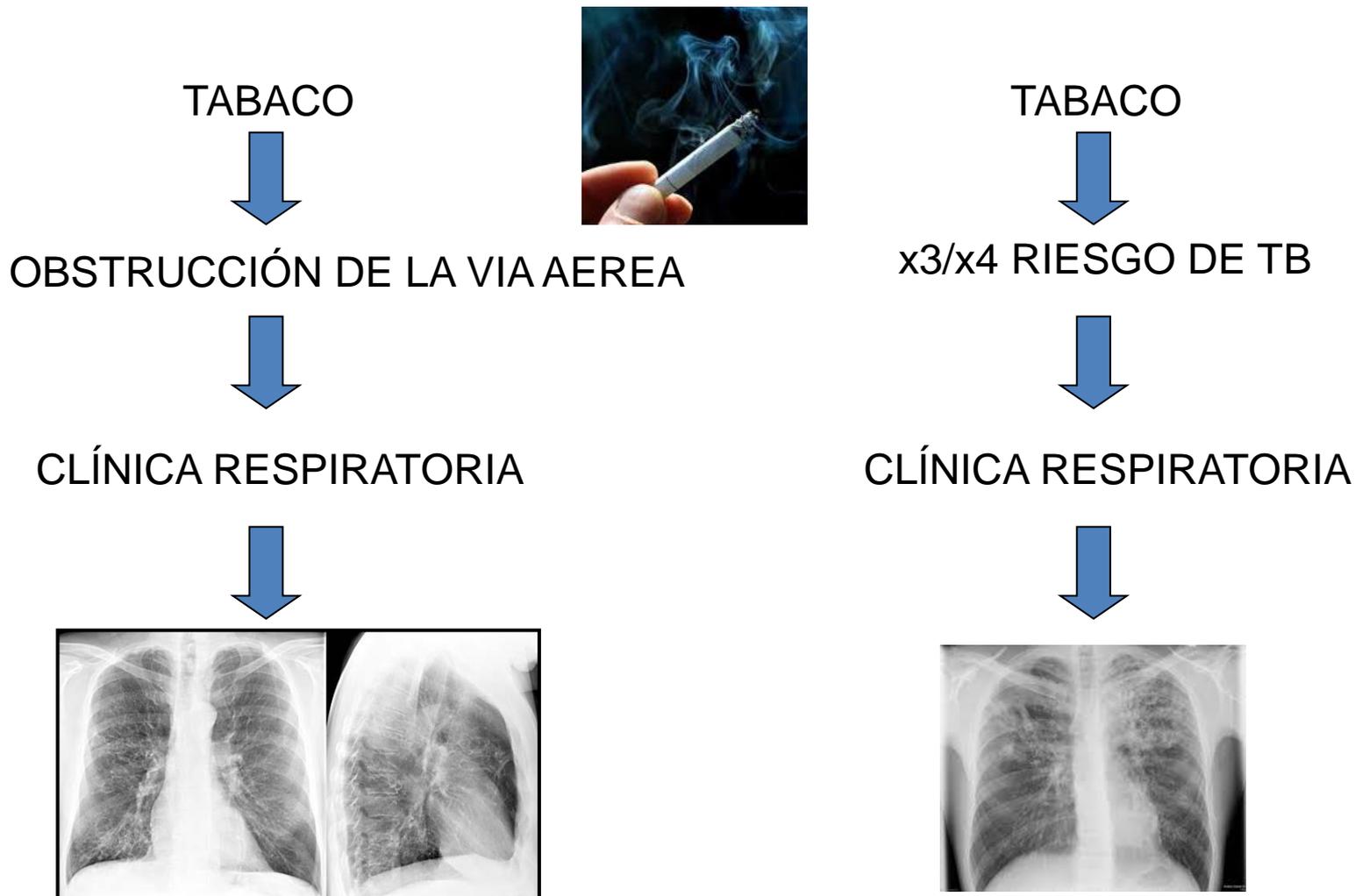


Tuberculosis y EPOC asociación





Tuberculosis y EPOC asociación





Tuberculosis y EPOC

LA TB COMO CAUSA DE EPOC

Existe dificultad en diferenciar el daño pulmonar causado por el tabaquismo del daño secundario a las secuelas de TB

EPOC >> destrucción pulmonar >> tabaco vs TB ??

1533 pacientes con TB, 61% : FEV1/FVC < 70%, VC > 80%

50% : síntomas respiratorios

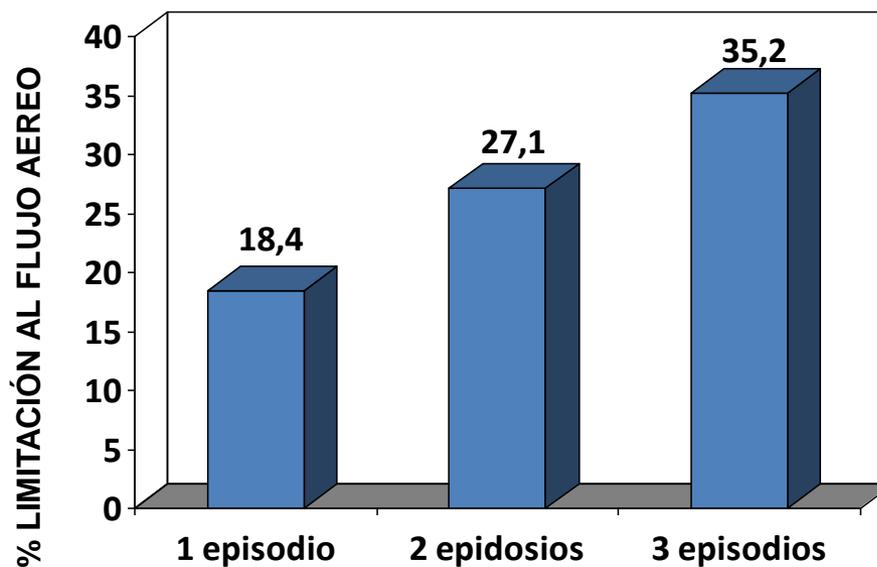
Gaensler et al 1959



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LA TB COMO CAUSA DE EPOC

IMPACTO DE MÚLTIPLES EPISODIOS DE TB EN LA FUNCIÓN PULMONAR



ESPIROMETRIA (27660)

2137

366

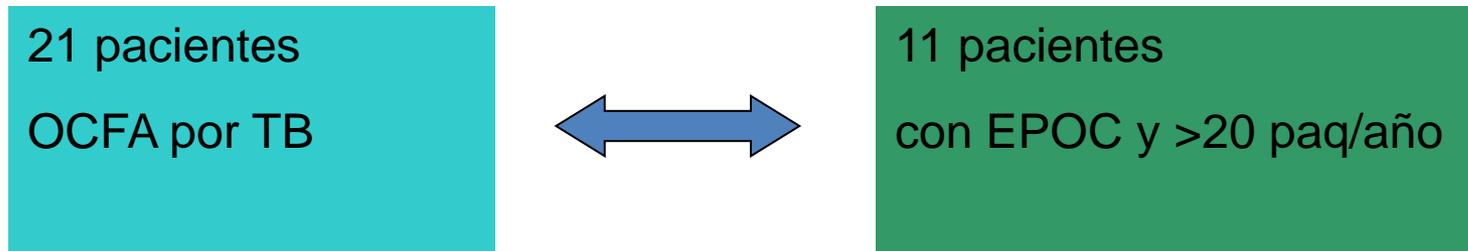
96



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LA TB COMO CAUSA DE EPOC

Diferencias entre la TB y el tabaco como causa de LCFA



No existían diferencias en la frecuencia de los síntomas de disnea o tos.

Sólo existía más casos de hemoptisis en el grupo de OCFA por TB

No existían diferencias en la frecuencia de agudizaciones ni hospitalizaciones.

Existía mayor respuesta a BD's en el grupo de EPOC (>12%, >200ml); 82% vs 27%



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FACTORES DE RIESGO DE TUBERCULOSIS

Edad

Sexo masculino

Estado socioeconómico bajo

Malnutrición

Abuso de sustancias

Silicosis

Infección por el VIH

Cáncer

Diabetes

Enfermedad renal

Enfermedad celíaca

Gastrectomía

Transplante

Corticoterapia

Tratamiento con inhibidores factor de necrosis tumoral



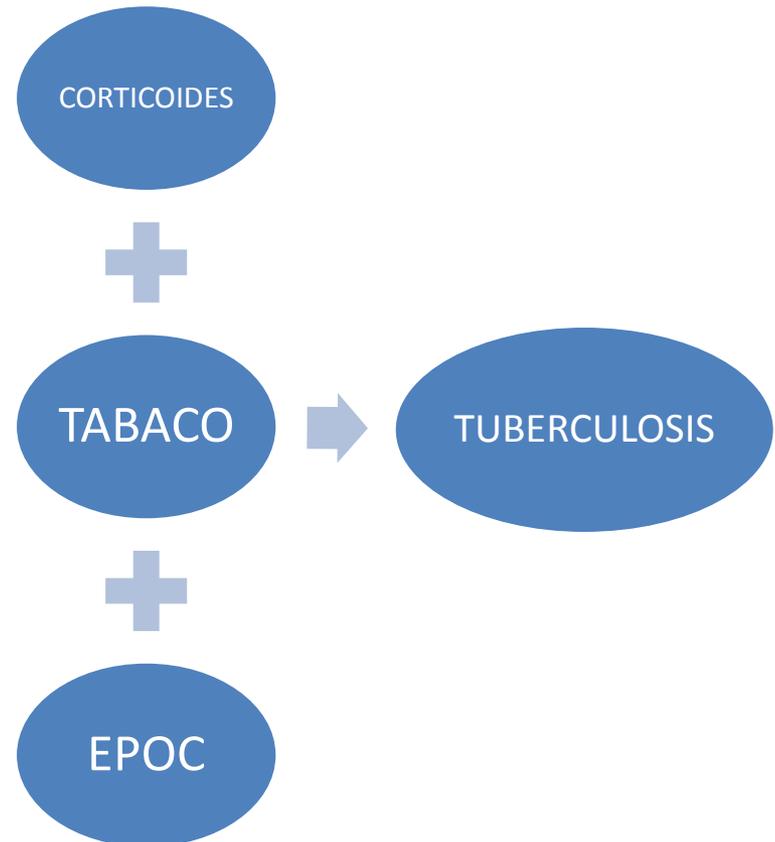
TUBERCULOSIS



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FACTORES DE RIESGO DE TUBERCULOSIS

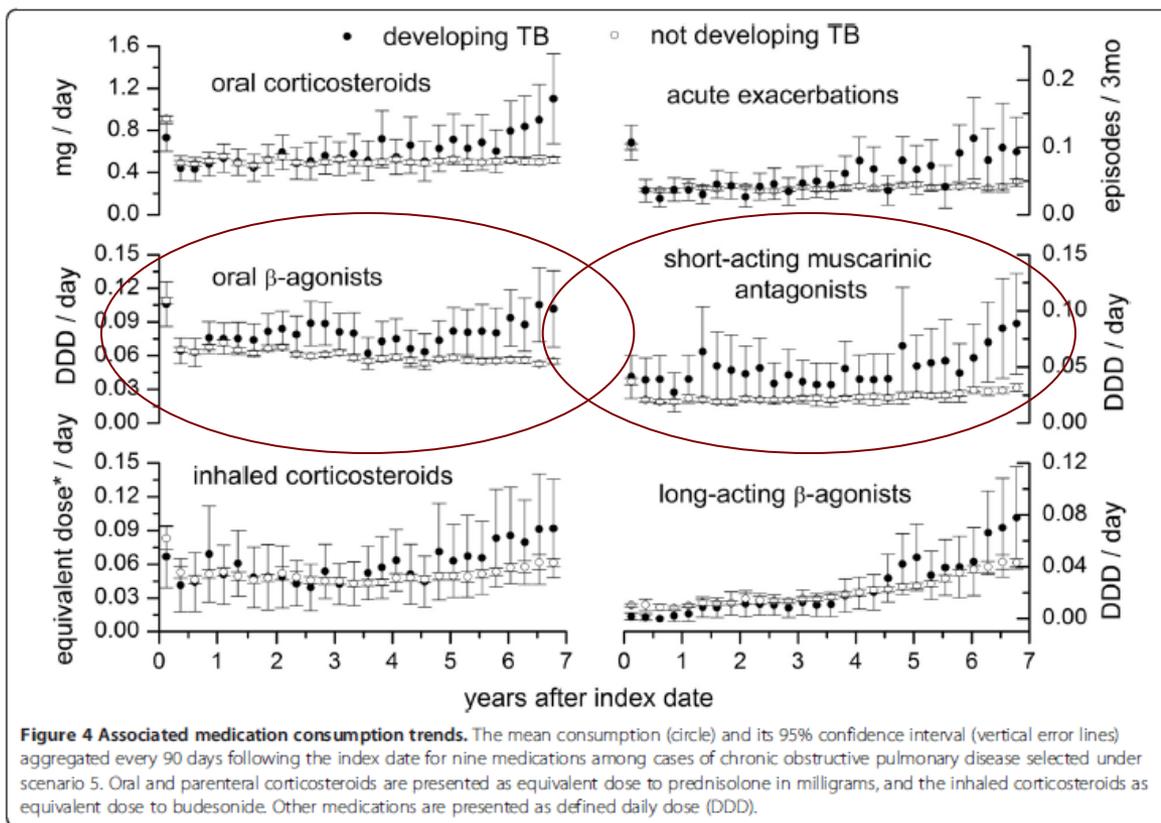
- Edad
- Sexo masculino
- Estado socioeconómico bajo
- Malnutrición
- Abuso de sustancias
- Silicosis
- Infección por el VIH
- Cáncer
- Diabetes
- Enfermedad renal
- Enfermedad celíaca
- Gastrectomía
- Transplante
- Corticoterapia
- Tratamiento con inhibidores factor de necrosis tumoral



Jick SS et al 2006

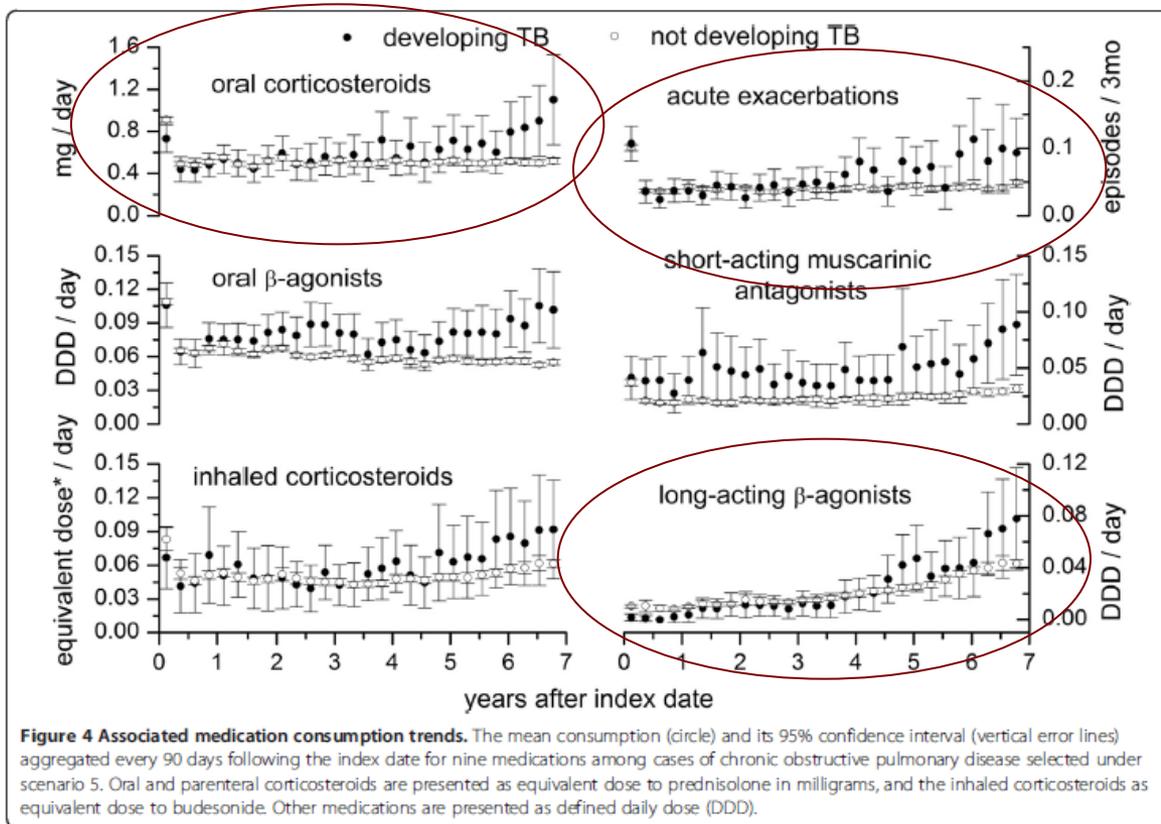
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FACTORES DE RIESGO DE TB EN EPOC



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FACTORES DE RIESGO DE TB EN EPOC



Tuberculosis y EPOC

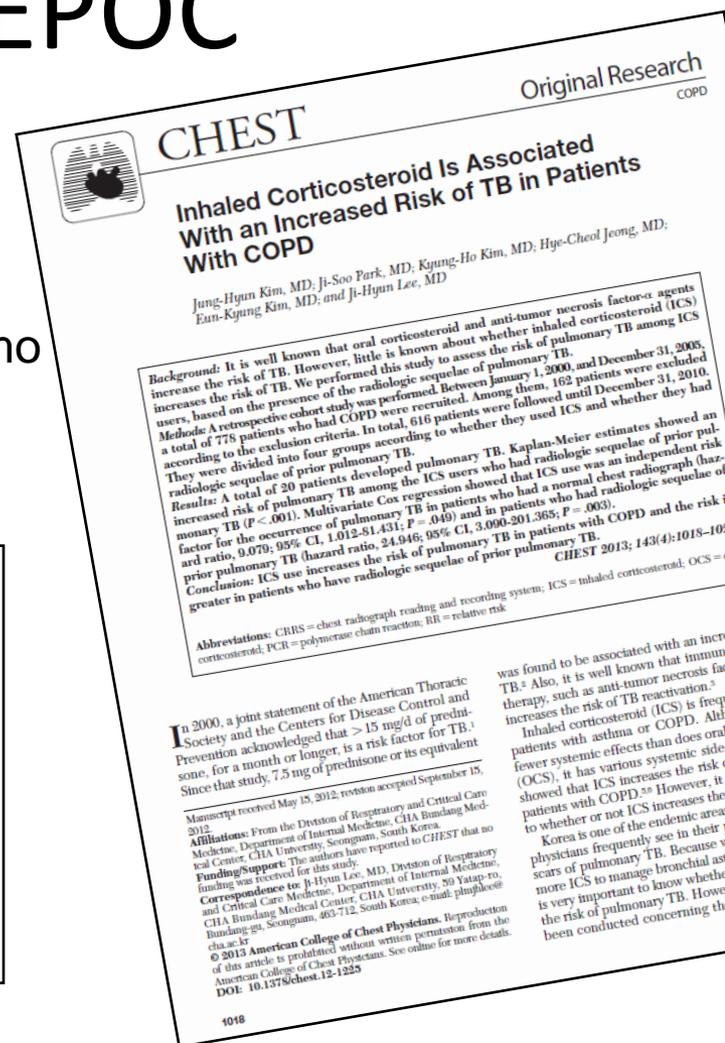
FACTORES DE RIESGO DE TB EN EPOC

- Conocer el efecto de los corticoides inhalados como FR de TB (con o sin secuelas post TB)

Table 3—Multivariate Cox Regression Analysis for the Occurrence of TB

Variables	Hazard Ratio	95% CI	P Value
ICS with TB scar	24.946	3.09-201.365	.003
ICS without TB scar	9.079	1.012-81.431	.049
No ICS with TB scar	1.792	0.112-28.688	.68
No ICS without TB scar	Reference

See Table 1 legend for expansion of abbreviation.



Tuberculosis y EPOC

FACTORES DE RIESGO DE TB EN EPOC

Riesgo de TB en EPOC: HR 3.0 (95% IC 2.4-4.0)

Mortalidad al año del diagnóstico de TB en pacientes con EPOC: HR 2.2 (9.5% IC 1.2-4.1)

Table 4. Characteristics of patients suffering from tuberculosis in the presence and absence of COPD as a pre-morbid condition.

	COPD	Controls
No of TB cases	201 (100%)	90 (100%)
Positive culture	158 (78.6%)	79 (87.8%)
Localization		
Pulmonary	157 (78.1%)	51 (56.7%)
Extra-pulmonary	26 (12.9%)	28 (31.1%)
Both	18 (9.0%)	11 (12.2%)
Sex		
Male	127 (63.2%)	59 (65.6%)
Female	74 (36.8%)	31 (34.4%)

OPEN ACCESS Freely available online

COPD and the Risk of Tuberculosis - A Population-Based Cohort Study

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Abstract

Background: Both chronic obstructive pulmonary disease (COPD) and tuberculosis (TB) primarily affect the lungs and are major causes of morbidity and mortality worldwide. COPD and TB have common risk factors such as smoking, low socioeconomic status and dysregulation of host defense functions. COPD is a prevalent co-morbid condition, especially in elderly with TB but in contrast to other diseases known to increase the risk of TB, relatively little is known about the specific relationship and impact from COPD on TB incidence and mortality.

Methods and Findings: All individuals ≥ 40 years of age, discharged with a diagnosis of COPD from Swedish hospital registers 1989–2007 were identified in the Swedish Inpatient Register (n = 115,867). Records were linked to the Swedish Tuberculosis Register 1989–2007 and the relative risk of active TB in patients with COPD compared to control subjects randomly selected from the general population (matched for sex, year of birth and county of residence) was estimated using Cox regression. The analyses were stratified by year of birth, sex and county of residence and adjusted for immigration status. Socioeconomic status (SES) and inpatient co-morbidities previously known to increase the risk of TB (COPD patients with three-fold increased hazard ratio (HR) of developing active TB (HR 3.0 (95% confidence interval 2.4 to 4.0)) that was independent on an increased risk of pulmonary TB. In addition, logistic regression estimates showed that COPD patients developed active TB had a two-fold increased risk of death from all causes within first year after the TB diagnosis compared to the general population control subjects with TB (OR 2.2, 95% confidence interval 1.2 to 4.1).

Conclusions: This population-based study comprised of a large number of COPD patients shows that these patients have an increased risk of developing active TB compared to the general population. The results raise concerns that the global burden of COPD will increase the incidence of active TB. The underlying contributory factors need to be investigated in further studies.

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Introduction

Chronic obstructive pulmonary disease (COPD) and tuberculosis (TB) are both diseases that mainly affect the lungs and are major causes of morbidity and mortality worldwide. One third of the world population is infected with *Mycobacterium tuberculosis* and eight million new cases of TB are reported every year [1]. In Sweden, as in many industrialized nations, the incidence of TB has declined over the past decades, presently being a low-incidence region with an annual incidence of around 100,000 inhabitants, with a total of around 500 new cases annually. General vaccination of newborns was performed from the 1940s and selective vaccination has only been offered to high-risk adults considered to run a high risk of developing active TB or elderly native Swedes. The majority of TB or elderly native Swedes are either relatively young immigrants who were infected at a younger age and suffer from a high risk of developing active TB. The development of COPD results in a high risk of developing active TB. The development of COPD results in a high risk of developing active TB, mainly tobacco smoke, leading to lung disease.

April 2010



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LA TB COMO COMORBILIDAD

Factor de riesgo de mortalidad de la EPOC como comorbilidad en TB

- 139 pacientes con TB, 10% EPOC >> factor de riesgo independiente

Ousler et al 2002

Factor de riesgo de mutiresistencias

- En Rusia, 600 pacientes con EPOC, 60.2% de resistencia a la isoniazida, asociada a EPOC (OR 2.1; IC 1.0-4.3, p=0.042)

Ruddy et al 2005

Factor de riesgo de necesidad de ingreso en UCI

- 58 pacientes ingresados en UCI, 6 con EPOC (10.3%), èxitus 66%.

Erbes et al 2006



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LA TB COMO COMORBILIDAD

5480 casos de TB pulmonar/pleural >> 8% DM

6% EPOC (2ª comorbilidad)

Turquía Aktogu et al 1996

461 cultivos positivos pulmonares >> DM

6.7% EPOC (2ª comorbilidad)

IRC, HEPATOPATIA, VIH

Taiwan Wang et al 2005

276 Casos de TB >>

11.9% EPOC

España Arevalo et al 1996



Tuberculosis y EPOC

EP-038

LA TUBERCULOSIS COMO COMORBILIDAD INFECCIOSA EN LA EPOC

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Tuberculosis total n=139

Tuberculosis pulmonar n=112

Tuberculosis pulmonar > 40 años n=50

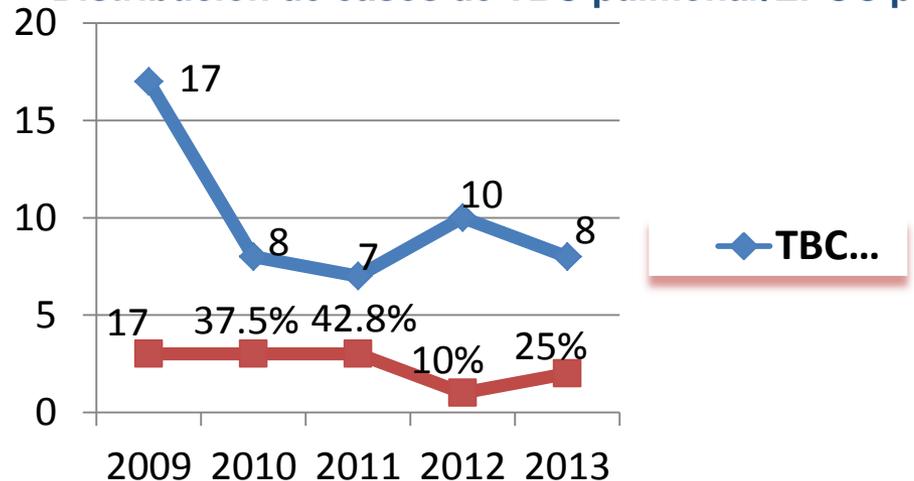
EPOC

n=12 (24%)

No EPOC

n=38 (76%)

Distribución de casos de TBC pulmonar/EPOC por año



- En nuestra serie, la EPOC es la segunda comorbilidad más frecuente en los pacientes con tuberculosis (24%)
- Las bronquiectasias eran más frecuentes en el grupo de EPOC (53% vs 43%, p=0.048).
- EPOC y tuberculosis: 33.3% VEMS<50%, 58.3% corticoides inh, 8.3% antibiótico crónico, 25% reingresadores.
- Mortalidad a los 2 años del diagnóstico de tuberculosis, 25% en EPOC vs. 15.8% no EPOC (p=0.668).



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