COPD patients receiving fixed or open-label triple therapy: initiation and persistence of treatment based on data from a real-world ambulatory medicalized database in France (study OPTI)

HSD43

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Background

- Inhaled triple therapies (TT), combining LABA, LAMA and ICS, are used as background treatment for COPD.
- Single inhaler triple therapies (SITT) have been available in France since 2018.
- The French National Authority for Health (Haute Autorité de Santé, HAS) recommends that SITT should only be initiated by pulmonologists.
- This restriction does not apply to multiple inhaler triple therapies (MITT).
- **This study analyzes prescribing patterns of SITT and MITT in real-world .**

Objectives

Primary

➢ To describe COPD patients initiating TT with single (SITT) or multiple (MITT) inhalers, according to the specialty of the prescribing physician – pulmonologist or general practitioner (GP).

Secondary

➢ To compare SITT and MITT persistence (no treatment interruption for >30 days).

Method

Study design

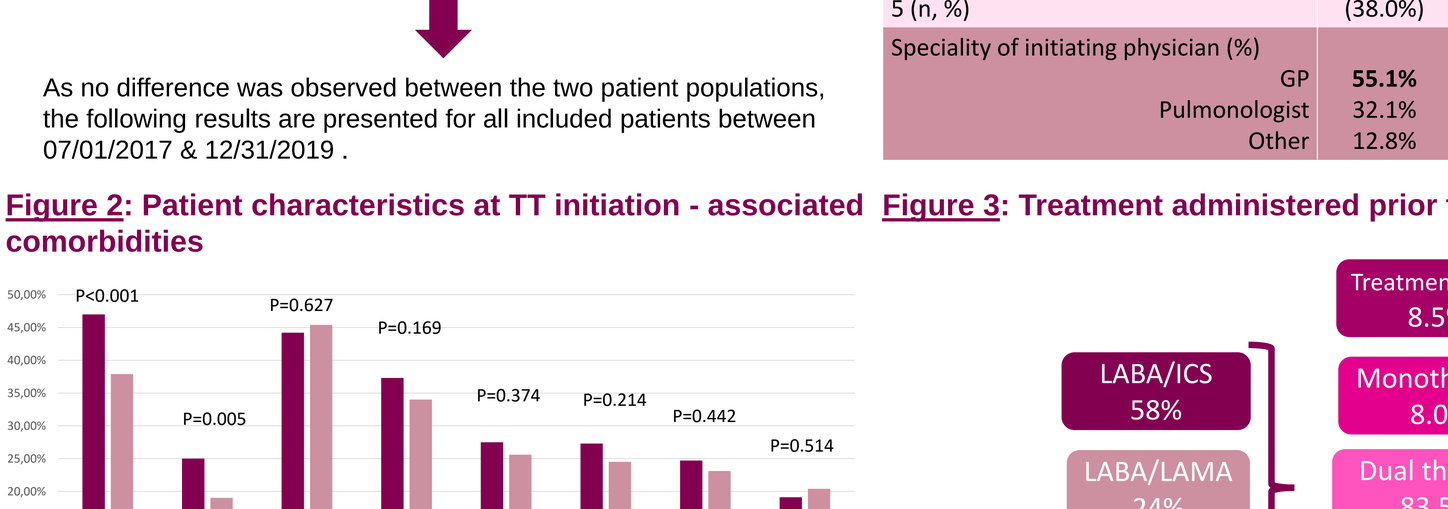
Retrospective, comparative study based on data from THIN® (The Health Improvement Network), a database which comprises patient data that is:

- Longitudinal
- Structured and anonymized (GDPR-compliant)
- Collected by a panel of 2,000 GPs and 1,000 specialists
- Includes claims history

Patient inclusion criteria

- Diagnosed with COPD
- Aged 40+
- Whose attending physician is a THIN® GP or pulmonologist
- Who initiated TT during the study period
- Who has a medical history dating back ≥ 1 year prior to TT initiation

Figure 1: Study timeline



Algorithm used to define an exacerbation

Moderate exacerbation

Dispensation of either a **corticosteroid** or an **antibiotic** included on the SPLF* list of recommended treatments for exacerbations.
*The French society of respiratory diseases

Severe exacerbation

Hospitalization in a pulmonology, infectious diseases, internal medicine ward or intensive care unit

Results

Table 1: Study population

No. of patients	MITT	SITT	TOTAL
Total *07/01/2017 – 12/31/2019*	2,649 (85%)	485 (15%)	3,134 (100%)
After SITT availability in France *06/28/2018 – 12/31/2019*	1,405 (74%)	485 (26%)	1,890 (100%)

As no difference was observed between the two patient populations, the following results are presented for all included patients between 07/01/2017 & 12/31/2019 .

Table 2: Patient characteristics at TT initiation - general profile

	MITT	SITT	TOTAL
Total no. of patients *07/01/2017 – 12/31/2019*	**2,649** (85%)	**485** (15%)	**3,134**
Post-TT initiation monitoring period, in yrs (median)	2.3	1.9	2.2
Age, in yrs (mean ± SD)	67 ± 12	68 ± 11	67 ± 12
Female gender (n, %)	1,171 (44.2%)	214 (44.1%)	1,385 (44.2%)
BMI, in kg/m² (mean ± SD)	27.85 ± 6.53	27.76 ± 7.44	27.83 ± 6.67
Charlson Comorbidity Index score of ≥ 5 (n, %)	897 (38.0%)	172 (40.2%)	1,069 (38.3%)
Speciality of initiating physician (%)			
GP	**55.1%**	29.5%	**51.1%**
Pulmonologist	32.1%	**59.8%**	36.4%
Other	12.8%	10.7%	12.4%

Table 3: Patient characteristics at TT initiation - COPD medical history

	MITT (No.=2,649)	SITT (No.=485)	TOTAL (No.=3,134)
Time since COPD diagnosis and TT initiation, in years (median)	2.8	3.6	2.9
Consultation with a pulmonologist within the 90 days prior to initiating TT (n, %)	**1,224 (46.2%)**	**328 (67.6%)**	**1,552 (49.5%)**
Patients with at least 2 moderate exacerbations or 1 severe exacerbation prior to initiating TT (n, %)	1,457 (55.0%)	274 (56.5%)	1,731 (55.2%)
No. of patients who took a spirometry test prior to initiating TT (n, %)	**1,341 (50.6%)**	**343 (70.7%)**	**1 684 (53.7%)**

We did not observe any statistically significant difference between pulmonologists and GPs regarding exacerbations that prompted TT initiation OR 0.94 ($CI_{95\%}$ 0,81 – 1,10)

Figure 2: Patient characteristics at TT initiation - associated comorbidities

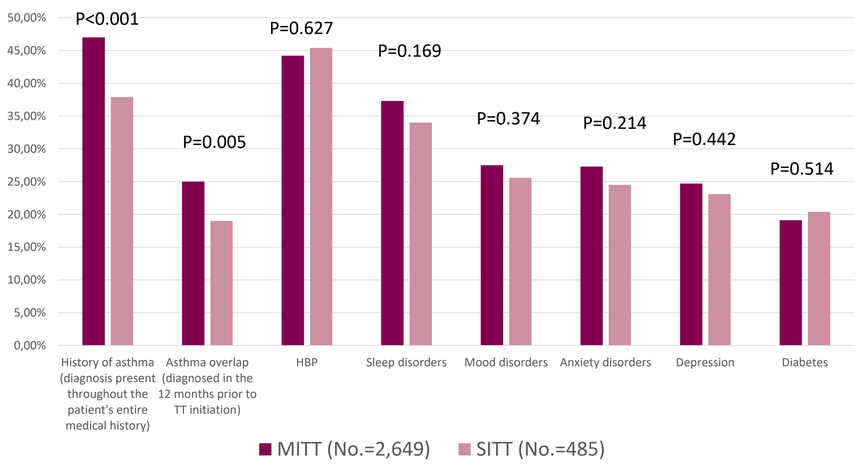


Figure 3: Treatment administered prior to initiating TT

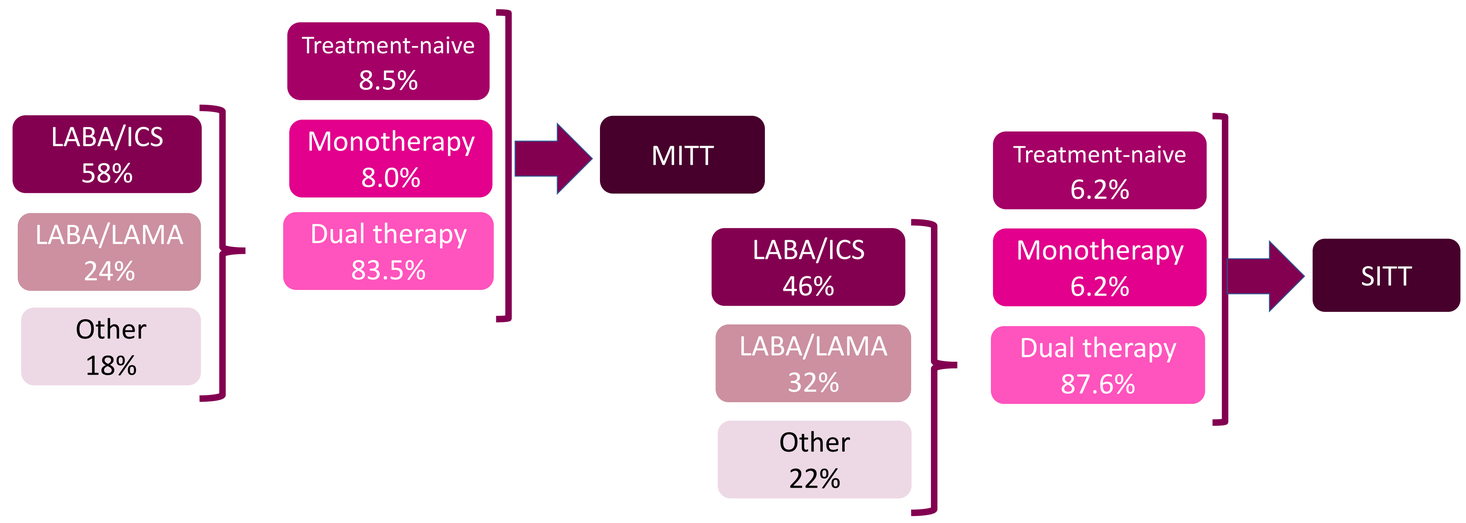
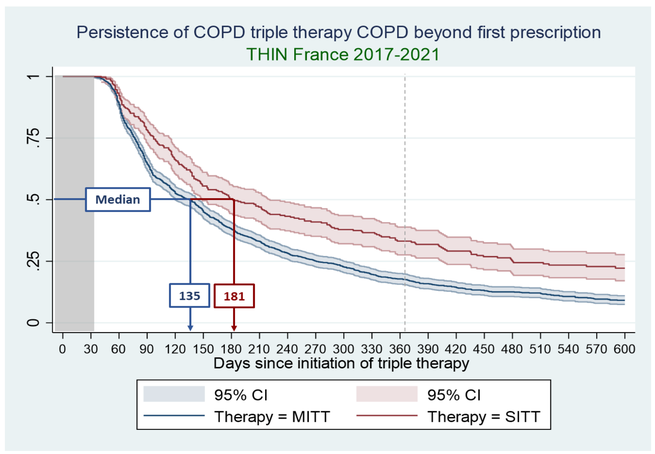


Figure 4: Lower persistence in patients initiated by MITT vs patients initiated by SITT



A sensitivity test at 90 days showed no difference for persistence results

Table 4: Factors that impact persistence

Multivariate Cox regression analysis of discontinuation beyond 30 days

No. = 1,674				
Variables*	HR**	95% CI***		P-value
		Lower	Upper	
SITT vs. MITT	1.47	1.27	1.69	<0.001
Prescribing practitioner				
Pulmonologist vs. GP	1.20	1.08	1.35	0.001
Exacerbations (over 12 months)				
≥1 moderate or severe vs. 0	0.84	0.75	0.95	0.005
Depression	0.76	0.67	0.85	<0.001

Other variables observed and excluded from the final model (non-significant) were: age, sex, CRF, emphysema, year TT was initiated, previous treatments, Charlson Comorbidity Index score, asthma, ENT cancer, and dyspnea, **Hazard ratio is the chance that a patient persists with treatment ; HR presented in this table are 1/HR calculated by the models with the discontinuation * confidence Interval of 95%*

Conclusions

- **There is no statistically significant difference between the characteristics of patients who initiated MITT and SITT**
- **Over 80% of patients initiating MITT or SITT were previously on dual therapy**
- **GPs and pulmonologists follow comparable initiation pathways based on exacerbations**
- **Treatment persistence improves significantly with SITT compared with MITT**

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