

Gaps and barriers to tuberculosis screening among anti-tumor necrosis factor prescribers

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ABSTRACT

Delegates from the Tuberculosis Committee of the Portuguese Pulmonology Society, the Portuguese Rheumatology Society, the Portuguese Dermatology and Venereology Society and the Portuguese Gastroenterology Society, have revised and updated, in 2012, their guidelines for the diagnosis and treatment of latent tuberculosis infection and active tuberculosis in patients that are candidates for therapy with biologic drugs.

In order to identify perceived barriers to tuberculosis screening among patients candidate to anti-TNF treatment, we performed a cross-sectional survey including rheumatologists, gastroenterologists and dermatologists who prescribed anti-TNF agents, identified by the respective Scientific Societies, throughout Portugal.

Ninety-five physicians (85 specialist and 10 trainees with more than 3 years of practice) participated in the

survey, including 42 rheumatologists (response rate 28%), 32 dermatologists (12% response) and 21 gastroenterologists (4% response). No information was collected on non-respondents.

This study showed that most of the participants were aware of tuberculosis risk and that they screened patients for tuberculosis following guidelines.

Keywords: Anti-TNF treatment; Tuberculosis; Latent Tuberculosis; Biological Therapy

Delegates from the Tuberculosis Committee of the Portuguese Pulmonology Society, the Portuguese Rheumatology Society, the Portuguese Dermatology and Venereology Society and the Portuguese Gastroenterology Society, have revised and updated, in 2012, their guidelines for the diagnosis and treatment of latent tuberculosis (LTB) infection and active tuberculosis in patients that are candidates for therapy with biologic drugs⁵. Tuberculosis (TB) has a great importance in terms of public health and in Portugal there is limited monitoring of physician's awareness of the risk of tuberculosis and of their adoption of best practices to reduce the risk of tuberculosis reactivation.

In order to identify perceived barriers to tuberculosis screening among patients candidate to anti-tumour necrosis factor (TNF) treatment, we performed a cross-sectional survey including rheumatologists, gastroenterologists and dermatologists who prescribed anti-TNF agents, identified by the respective Scientific Societies, throughout Portugal. The survey was developed and pre-tested in one hospital, then distributed to the different specialties by the scientific societies. The target population comprised 150 rheumatologists, 269 dermatologists and 540 gastroenterologists.

Ninety-five physicians (85 specialist and 10 trainees with more than 3 years of practice) participated in the survey, including 42 rheumatologists (response rate 28%), 32 dermatologists (12% response) and 21 gas-

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TABLE I. CLINICAL CHARACTERISTICS ACCORDING TO THE PRESENCE OF INFECTION

Characteristics		Rheumatologists n=42 (%)	Dermatologists n=32 (%)	Gastroenterologists n=21 (%)	p-value	
Number of patients in whom prescribers initiated biologic drugs	<5	8 (19.0)	21 (65.6)	7 (33.3)	<0.001	
	5-10	22 (52.4)	6 (18.8)	23.8 (5)		
	>10	12 (28.6)	5 (15.6)	9 (42.9)		
Type of educational training	C	3 (7.1)	1 (3.1)	1 (4.8)	<0.001	
	SJ	17 (40.5)	31.2 (10)	7 (33.3)		
	C, SJ, MR	3 (7.1)	50.0 (16)	2 (9.5)		
	C, SJ	19 (45.2)	15.6 (5)	11 (52.4)		
Guidelines used to screen patients	PG	Yes	42 (100.0)	31 (96.9)	21 (100.0)	0.558
		No	0 (0.0)	1 (3.1)	0 (0.0)	
	EG	Yes	10 (38.5)	18 (85.7)	6 (37.5)	0.002
		No	16 (61.5)	3 (14.3)	10 (62.5)	
	AG	Yes	2 (8.0)	10 (62.5)	0 (0.0)	<0.001
		No	23 (92.0)	6 (37.5)	12 (100.0)	
Waiting time for screening patients	<2 Weeks	14 (33.3)	14 (45.2)	5 (23.8)	0.517	
	2-4 Weeks	22 (52.4)	15 (48.4)	14 (66.7)		
	>4 Weeks	6 (14.3)	2 (6.5)	2 (9.5)		
IGRA	Yes	29 (78.4)	29 (93.5)	16 (88.9)	0.200	
	No	8 (21.6)	2 (6.5)	2 (11.1)		
Anamnesis	Yes	37 (88.1)	28 (93.3)	20 (95.2)	0.844	
	No	1 (2.4)	1 (3.3)	0 (.00)		
	Variable	4 (9.5)	1 (3.3)	1 (4.8)		
Patients candidates to biologic drugs started biologic	Before	4 (9.5)	2 (6.7)	0 (0.0)	0.104	
	During	34 (81.0)	20 (66.7)	19 (95.0)		
	After	4 (9.5)	8 (26.6)	1 (5.0)		
Annual screening in pts with biologic and TB exposure	Yes	13 (44.8)	24 (82.8)	13 (62)	0.077	
	No	16 (55.2)	5 (17.2)	8 (38)		

C: Course; SJ: Scientific journals; MR: Medical representatives; PG: Portuguese guidelines; EG: European guidelines; AG: American Guidelines; PDC: Pneumologic Diagnosis Center

troenterologists (4% response). No information was collected on non-respondents.

This study showed that most of the participants were aware of tuberculosis risk and that they screened patients for tuberculosis following guidelines (Table I). Prior studies found that screening rates were high among anti-TNF prescribers^{1,2}. We found that rheumatologists and gastroenterologists were more likely to have educational training about TB risk associated to biologic drugs in courses and scientific journals than dermatologists who reported to have received training in courses, scientific journals and from pharmaceutical medical representatives. This supports the concept that repeated information and information from multiple sources can promote behavioural changes among physicians¹.

However, although physicians were unanimous in regarding tuberculin tests and chest x-rays as mandatory in screening these patients, Interferon-Gamma Release Assay (IGRA) was not performed routinely. Compliance rates (>78.4%) were, nevertheless, better than those found by Ferreira *et al*² (70%). Concentration of the test in TB outpatient centers, costs and the delay in obtaining results were reported as the main barriers to its use.

Annual screening while on biologic therapy was not performed systematically (17.2, 38 and 55.2% of Dermatologists, Gastroenterologists and Rheumatologists respectively). The barriers and gaps identified were: lack of awareness of this recommendation; lack of communication with the TB outpatient centers – each one assuming that the other would be responsible for

scheduling the reevaluation. These results suggest that there is the need to increase awareness of the guidelines updates and to improve coordination between physicians and TB outpatient centers.

Our study has limitations. The most relevant are the low response rate and potential selection bias: the response profile might have been biased towards the physicians who are more motivated and who have received more education on this subject, which obviously limits the representativeness of the responses. We limited the study to rheumatologists, dermatologists and gastroenterologists, the three specialties involved in the drafting of the latest national consensus.

Even though most respondents were aware of tuberculosis risk during treatment with biologic agents and screened patients for LTB, annual re-screening of patients without previous criteria of LTB was not

being done by most responders. Coordination and better definition of the role of the different institutions involved should be improved.

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