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Allergen immunotherapy: clinical and practical education of Italian trainees in allergy and clinical immunology schools

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KEY WORDS

Allergen immunotherapy, allergology, clinical immunology, survey, trainee

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SUMMARY

We performed a survey, based on a questionnaire including 20 items, submitted anonymously to Italian trainees in Allergology and Clinical Immunology, in order to obtain information about their specific allergen immunotherapy (AIT) practices. The questionnaire was sent to 40 trainees, who had attended the last two years of the training course. Thirty-four subjects (mean age: 27 years, 65% females) adequately completed the survey. The answers to the questionnaire showed that only 60% of the training programs included lectures on AIT. Among the trainees using AIT, only 40% declared being able to prescribe it independently, while 60% were guided by a tutor. Of the trainees who were able to prescribe AIT autonomously, 60% were familiar with both routes of administration, i.e. subcutaneous (SCIT) and sublingual immunotherapy (SLIT), while 25% of these used only SLIT. In 80% of the training institutions involved, the trainees could attend a dedicated AIT outpatient ward for SCIT administration; only 40% administered AIT personally, and in half of these cases, they were guided by a tutor. Only 70% of trainees had experience in the follow-up of patients still under treatment and of patients who had completed treatment. Analysis of the answers obtained for questions on venom immunotherapy (VIT) showed that, in 90% of cases, the trainees attended a dedicated outpatients ward where VIT is administered, but with a role limited to observation/cooperation. Only 30% were involved in the follow-up of patients who were under treatment or who had completed VIT. Only 20% of the trainees felt confident enough about VIT to prescribe this treatment independently, 80% knew there were several administration protocols, and the majority prescribed products from three different manufacturers. These findings suggest that there is significant room for improving the instructions provided regarding allergology and clinical immunology to trainees in Italy with respect to AIT.

Introduction

Allergology is a medical specialty devoted to the prevention, diagnosis, management, and rehabilitation of patients with allergic diseases. In 2011, the centenary of the introduction of allergen immunotherapy (AIT) into clinical practice was celebrated (1,2). Over the years, a large

body of scientific evidence has shown that, from the management approaches for allergy, AIT is the only treatment option capable of modifying the natural history of the disease in patients with allergic rhinitis and asthma caused by inhalant allergens and in patients with Hymenoptera venom allergy (3). In fact, in these patients, AIT reduces the symptoms and the use of symptomatic

drugs and improves the prognosis and the quality of life, with a clear effect also seen in terms of economic implications (4). Concerning AIT for respiratory allergy, two treatment options are available, subcutaneous immunotherapy (SCIT) and sublingual immunotherapy (SLIT), which are of comparable clinical efficacy (5). Despite the robustness of scientific evidence, AIT seems to be prescribed by allergists to fewer patients than require therapy: trade data have confirmed a reduction in its use in recent years (6).

In Italy, this specialty includes both Allergology and Clinical Immunology, and the training lasts five years, during which the trainees must acquire a well-defined level of competence in the diagnosis and management of allergic and immunologic diseases. Currently, in Italy there are 14 training institutions, with a total of 150 trainees. The main objective of training in Allergology and Clinical Immunology is to provide the trainee with the appropriate knowledge and essential techniques for the competent practice of this specialty. AIT practice, which implies competency in prescription, administration, and follow-up, is one of the tasks most particular to allergists.

This study aimed to investigate the level of knowledge about AIT and its practical use in respiratory and Hymenoptera venom allergy treatment among such future specialists, by the end of their training.

Materials and methods

We performed a survey, based on a questionnaire, which was submitted anonymously to Italian trainees in Allergology and Clinical Immunology, in order to obtain information about their AIT practice. The questionnaire was sent to 40 trainees, who had attended the last two years of the training course. These were randomized from the overall number within all the Italian territory.

This questionnaire included 20 items, eight of these being about Hymenoptera venom immunotherapy (VIT). Several aspects, such as scientific knowledge and the practical administration of AIT, were evaluated. Thirty-four subjects adequately completed the survey: their mean age was 27 years and 65% were female.

Results

The majority of the interviewed trainees were attending allergology courses in the second/third years of their

training. A requirement of these specialty courses is that each trainee is provided with basic knowledge and is assisted in acquiring the clinical skills required to diagnose and to effectively treat allergic diseases. The answers to the questionnaire showed that the scientific knowledge about AIT derives from attending seminars and/or congresses for 30% of the interviewed. Moreover, only 60% of the training programs included lectures on this topic.

Among the trainees who administer AIT, only 40% declared being able to prescribe AIT independently, while 60% were guided by a tutor. Of the trainees who were able to prescribe AIT autonomously, 60% were familiar with both routes of administration (SCIT and SLIT), while 25% of those interviewed stated that they used only SLIT. The majority of the trainees prescribed extracts produced by at least four different companies and 70% knew that there are different treatment protocols. In 80% of the training institutions involved, the trainees could attend a dedicated AIT outpatient ward for SCIT administration; only 40% of these trainees administered AIT in person, but half of these cases were guided by a tutor. Only 70% of trainees had experience in the follow-up of patients under treatment and those who had completed AIT.

Analysis of the answers to questions on VIT showed that, in 90% of cases, trainees attend a dedicated outpatients ward where VIT is administered, but with a role limited to observation/cooperation. In fact, even if 40% of trainees administer VIT independently, they are supervised by a tutor in more than half of the cases. Finally, only 30% of the trainees were involved in the follow-up of patients who were under treatment or had completed VIT. Only 20% of interviewed trainees felt sufficiently confident about VIT to prescribe this treatment independently; 80% knew that there are several administration protocols, and the majority prescribed products from three different manufacturers. Table 1 summarizes the ability of prescribing and performing AIT as declared by trainees.

Discussion

The “Union Européenne des Médecins Spécialistes” (UEMS) is the representative organization of all medical specialists in the European community. The UEMS Allergology and Clinical Immunology Core Curriculum specifies in detail the theoretical and practical competencies that should be attained during the training period. In particular, in terms of practical aspects, it is stated that “the trainees should perform induction and maintenance

Table 1 - Abilities of trainees in prescribing and performing AIT

	Inhalant specific immunotherapy (number of trainees) (%)	Venom specific immunotherapy (number of trainees) (%)
Number of trainees involved (total)	34	34
Competence to prescribe AIT independently	14 (40%)	7 (20%)
Knowledge of different treatment protocols	24 (70%)	27 (80%)
Attend a dedicated AIT outpatient ward for SCIT administration	27 (80%)	31 (90%)
Competence to administer AIT independently	7 (20%)	3 (10%)

treatments (both patients allergic to inhalant allergens and Hymenoptera venoms) and, gradually, the trainee must assume responsibility for clinical decision-making and patient care, and be able to function as an independent clinical decision maker at graduation" (5). In 2004, Malling et al. published an article dedicated to the objectives of the specialty training core curriculum in Allergology and Clinical Immunology, stating that the graduate allergologist/clinical immunologist must achieve a number of general educational objectives. Among these, the first was "Provide excellent, comprehensive, and evidence-based diagnosis and management for patients with allergic and immunologic disorders" (6). Concerning AIT, both theoretical and practical aspects were considered fundamental (7). The former included "Principles of the treatment, different induction regimens, allergen extracts, indications, contraindications, side-effects, preventive capacity, long-term capacity, and cost-effectiveness". The latter included "Perform induction and maintenance treatments in both patients allergic to inhalant allergens and Hymenoptera venoms".

Using a questionnaire, the present study assessed the actual knowledge and experience on such aspects among Italian trainees in Allergology and Clinical Immunology. The results clearly showed that the clinical and therapeutic practice is only well known in few cases and, as a consequence, it is difficult to perform AIT as part of the daily routine activity. With regard to the trainees who administer AIT, tutors play a crucial role, firstly at the time of prescription and subsequently during administration. Our results show that only 40% of the interviewed trainees are able to prescribe AIT independently, while 60% are guided by a tutor. This makes the tutor's experi-

ence fundamental to the training activity and program. In fact, this teaching role must contribute to the specialist education of the trainees concerning not only the scientific, but especially also the clinical and practical aspects, of their professional activity.

Data collected about VIT are even more relevant. VIT must be considered an absolute indication for AIT, because it is able to prevent fatal reactions to stings in all treated patients (8). In Italy, this treatment is currently more widespread than 10 years ago, but it is still practiced only in specialized centres. Our results showed that in 90% of cases, trainees attend a dedicated outpatient ward where VIT is administered, but also that their role is merely that of observation/cooperation. In fact, even if 40% of trainees administer VIT independently, they are supervised by a tutor in more than half of cases. Finally, only 30% are involved in the follow-up of the patients who are still under treatment or have completed VIT.

In conclusion, the findings from this survey suggested that there is significant room for improving the teaching process and material for allergology and clinical immunology trainees in Italy with respect to AIT. The directors of specialty schools are tasked with achieving the goal of providing the tools for performing AIT to their trainees, in accordance with the scientific knowledge available and practice parameters for this important treatment modality.

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