

## 学位論文の要旨

氏名 多田 光宏

- 学位論文名 Comparison of clinical management of young and elderly asthmatics by respiratory specialists and general practitioners
- 発表雑誌名 Journal of Asthma.  
(巻, 初頁~終頁, 年) (Epub ahead of print, 2014 Nov 21:1-8)
- 著者名 Mitsuhiro Tada, Takashige Kuraki, Yasuyuki Taooka,  
Hiroshi Fuchita, Fumi Karino, Kiyotaka Miura,  
Shunichi Hamaguchi, Miki Ohe, Akihisa Sutani, Takeshi Isobe

## 論文内容の要旨

### INTRODUCTION

The increase in the number of asthmatics in recent decades has become a serious public health problem worldwide. It is estimated that about 250,000 people per year die of asthma worldwide. Therefore, asthma-related death, hospitalization, and emergency visit impose enormous social and economic burdens. In Japan, the prevalence of asthma and related mortality rate are higher than that in other developed countries, making asthma one of the major social problems. In many countries, the majority of asthma-related deaths involves elderly patients ( $\geq 65$  years).

Physician's skill is an important aspect of asthma control. Since asthma is a common disease, not only respiratory specialists (RS), but also general practitioners (GP) should be involved in the treatment of patients, with the exception of intractable cases. However, some studies have reported that GPs lag behind RS with regard to the management of asthma.

The aim of the present study was to compare management of young and elderly asthmatics provided by RS and GP.

### MATERIALS AND METHODS

A cross-sectional survey was carried out in Shimane, Japan, in February 2009 using a questionnaire about patient background, treatment, asthma control test (ACT) and adherence to

treatment. We secured the cooperation 48 clinics (39 private clinics, 9 general hospitals).

The treatment type was categorized according to the type of controller medication. Controller medications included regularly used inhaled corticosteroids (ICS), long-acting beta agonists (LABA), ICS/LABA fixed combinations, theophylline, leukotriene receptor antagonists (LTRA) and oral corticosteroids. The treatments were classified into five steps according to the Global Initiative for Asthma (GINA) 2009 guidelines.

We divided asthma patients into two groups according to age; the elderly group, consisting of patients aged  $\geq 65$  years, and the young group ( $< 65$  years). Furthermore, we divided the patients according to the specialty; the RS group comprising patients who visited the clinic or hospital for treatment by RS, and the GP group comprising patients who visited the clinic or hospital for treatment by GP.

We used the Japanese version of the ACT to evaluate asthma control. The ACT is a five-item questionnaire to assess asthma control in the 4-week period preceding visit to the clinic (Question1: restriction of activity, Question2: shortness of breath, Question3: night symptoms, Question4: use of rescue inhaler, Question5: self-assessment). The sum of the scores of the five questions yields the total ACT score (range, 5–25). The total ACT score of 25 represents complete control of asthma, 20–24 good control, and  $< 20$  represents poor control. In this study, we defined the total ACT score of  $\geq 20$  points as high score and  $< 20$  points as low score.

We examined the frequency of forgetting to take medications and nonuse for each of the inhalants, oral agents and patch agents per week.

The study protocol was approved by the Ethics Committee of Shimane University and written informed consent was obtained from all subjects.

## **RESULTS AND DISCUSSION**

### **Characteristics of study patients**

Clinical data of 779 patients were available for analysis. Elderly patients constituted 464 (RS group: 192, GP group: 272), while those of the young group were 315 (RS group: 207, GP group: 108). The use of inhaled corticosteroids (ICS) was significantly higher among the elderly and young RS group than the GP group. Based on the treatment steps of the GINA 2009 guidelines, the majority of patients of the RS group were classified as step 3 or 4, whereas the majority of patients of the GP group were classified as step 1 or 2 or 3.

### **Asthma control test**

The proportion of patients with high score was significantly higher in the young RS group compared with the young GP group. However, no such difference was found between the elderly RS and their counterpart of the GP group.

In each question of ACT, the score for Q2 was significantly lower in the elderly GP group than the elderly RS group. The scores for Q1 and Q3 were, however; not significantly different

between the two groups. The scores for Q1, Q2 and Q3 were significantly lower in the young GP group compared with the young RS group. Patients of the young GP group had more asthma-related symptoms than those of the young RS group. For Q4, elderly patients of the GP group used inhalers of short-acting beta-stimulators to relieve asthma-related symptoms significantly fewer times than elderly patients of the RS group. With regard to Q5 about self-assessment of asthma, the score was significantly higher in elderly patients of the GP group compared with their counterparts of the RS group. In contrast, the score was higher in the young RS group than the young GP group.

### **Adherence to treatment**

There were no significant differences between the elderly and young patients of the RS and GP groups with regard to the use of each inhalant, oral and patch agents. However, comparison of the elderly patients (including the RS and GP groups) and young patients (including the RS and GP groups) showed significantly better adherence to the treatment by the elderly patients than the young patients for each inhalant, oral agent and patch agent.

### **Discussion**

Elderly patients treated by GP felt more shortness of breath than elderly patients treated by RS (response to Q2). However, elderly patients treated by GP self-assessed their ACT with higher score than elderly patients treated by RS (response to Q5). It is possible that elderly patients managed by GP tended to underestimate the severity of their asthma condition. Furthermore, elderly patients managed by GP less frequently used rescue inhalers to relieve asthma-related symptoms compared with elderly patients treated by RS (response to Q4). Also, in young patients treated by GP, the frequency of use of rescue inhalers was similar with those treated by RS, although young patients seen by GP had clearly more asthma-related symptoms than those treated by RS. We speculate that these results were related to insufficient prescription of rescue inhalers and insufficient instructions by GP. The results of GP for Q4 and Q5 might overestimate the total ACT score especially in the elderly GP group. Because the treatment step in many of the patients of the GP group was low despite the multitude of asthma-related symptoms, many patients of the GP group were probably undertreated and required step-up treatment.

We speculate that these differences were related to inappropriate education and insufficient clinical skills by GP

### **CONCLUSION**

Elderly asthmatics treated by GPs underestimated the severity of their asthma and asthmatics seen by GPs were undertreated. The results stress the need to engage patients in educational activities, to adhere to guidelines, and to improve the coordination between GP and RS.



## 論文審査及び最終試験又は学力の確認の結果の要旨

①・乙	氏名	多田 光宏
学位論文名	Comparison of Clinical Management of Young and Elderly Asthmatics by Respiratory Specialists and General Practitioners	
学位論文審査委員	主査 副査 副査	織田 禎二 木下 芳一 紫藤 治



## 論文審査の結果の要旨

気管支喘息・喘息死は公衆衛生上の重要な問題であるが、日本における喘息死亡率は他の先進国に比べて高く、患者の大半は65歳以上の高齢者が占めている。気管支喘息が頻度の高い疾患であることを考えると、一般医による喘息診療への関与が必要であるが、一般医における喘息診療は専門医に比べ劣る、という海外での報告がある。そこで、本研究では高齢者における専門医と一般医における喘息マネジメントを比較することを目的に、質問票によって患者背景、治療内容、喘息のコントロール状態、治療へのアドヒアランスに関する調査を行った。調査に参加した患者を65歳以上と以下に分け、さらに喘息診療に従事する医師を呼吸器専門医と一般医に分類し、計4群に分類し比較検討した。喘息のコントロール状態の評価はこの分野で標準的テストである喘息コントロールテスト (Asthma Control Test: ACT) を使用した。

779人が解析対象となり、このうち65歳以上の高齢者は464人(全体の59.6%)でそのうち192人(41.4%)が専門医群、272人(58.6%)が一般医群であった。吸入ステロイドは気管支喘息による死亡率、入院率を有意に減少させることが知られているが、一般医群の患者では、専門医群の患者に比べて、喘息による症状が多いにも関わらず、吸入ステロイドの導入率が高齢者・若年者とも有意に低く、十分な治療が受けられていない患者が多く存在していると考えられた。また治療強度と喘息のコントロール状態との関連を検討すると、一般医群では、専門医群に比べて喘息症状が多いにも関わらず、治療強度が低く、この傾向は若年者で顕著であった。また一般医群では、症状の多さに比較して発作止めの短時間作動型β刺激薬の使用頻度が少なく、一般医を受診する高齢者は自らの症状を過小評価しているものと思われた。これらの結果より、気管支喘息に対する治療と患者教育が、一般医においては専門医と比較すると、十分には行われていないと考えられた。服薬アドヒアランスでは、高齢者・若年者のいずれも専門医群と一般医群に差は無かったが、高齢者と若年者を比べた場合は高齢者のアドヒアランスが良好であった。これらの研究結果は、喘息死を減らすためには一般医や患者に対する啓発活動、ガイドラインの普及、病診連携の更なる推進が必要であることを明らかにしたものであり、臨床的意義は大きく学位授与に値すると判断した。

## 最終試験又は学力の確認の結果の要旨

申請者は島根県における気管支喘息治療が一般医においてどのように行われているかを専門医との比較において検討しその問題点を明らかにした。研究に関連する領域の学識も豊富で博士の学位に値すると判断した。(主査：織田 禎二)

申請者は島根県内の医師を対象に喘息患者の診療に関するアンケート調査を行い、専門医と比較して一般医では吸入ステロイド治療の導入率が低く、治療強度が弱いことを明らかとした。関連領域の知識も豊富で博士の学位に値すると判断した。(副査：木下 芳一)

申請者は島根県内の医療機関の協力を得て一般医と呼吸器の専門医における喘息の治療内容などの差異を喘息コントロールテストにより解析した。本研究は継続性も期待され、得られる結果は喘息への対応方法の改善に寄与する。公開審査での質疑応答も適確で基礎・関連知識も十分であり、学位授与に値すると判断した。(副査：紫藤 治)

(備考) 要旨は、それぞれ400字程度とする。