

好酸球性気管支炎の咳需容体感受性亢進のメカニズム

メタデータ	言語: Japanese 出版者: 公開日: 2022-03-25 キーワード: 作成者: メールアドレス: 所属:
URL	https://doi.org/10.24517/00066884

This work is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 3.0 International License.



1994 Fiscal Year Final Research Report Summary

Mechanisms of heightened airway cough receptor sensitivity in eosinophilic bronchitis (atopic cough : eosinophilic bronchitis without asthma).

Research Project

Project/Area Number

04807055

Research Category

Grant-in-Aid for General Scientific Research (C)

Allocation Type

Single-year Grants

Research Field

Respiratory organ internal medicine

Research Institution

Kanazawa University

Principal Investigator

FUJIMURA Masaki Kanazawa University School of Medicine, The Third Department of Internal Medicine, Assistant Professor., 医学部付属病院, 講師 (90190066)

Co-Investigator(Kenkyū-buntansha)

NISHI Kouichi Ishikawa Prefectural Hospital, Division of Pulmonary Medicine, Head., 呼吸器内科, 医長

Project Period (FY)

1992 - 1994

Keywords

Chronic nonproductive cough / Pathophysiology / Cough receptor sensitivity / Bronchial responsiveness / Atopic cough / Cough variant asthma / Eosinophilic bronchitis

Research Abstract

1. Clinical study on chronic nonproductive cough

- (1) A new clinical entity named as "ATOPIC COUGH" has been proposed, which is different from cough variant asthma.
- (2) Bronchodilator therapy is ineffective, bronchial responsiveness to methacholine is within normal range, and airway cough receptor sensitivity to inhaled capsaicin is heightened in atopic cough.
- (3) The histologic feature is considered to be large airway eosinophilic inflammation according to the following findings : no eosinophils in bronchoalveolar lavage fluid or bronchial lavage fluid, small number of eosinophils in biopsied bronchial specimens, and almost same number of eosinophils in hypertonic saline-induced sputum as bronchial asthma.
- (4) Histamine H1-antagonists and steroids are effective for the treatment of atopic cough.

2. Animal experiment on eosinophilic bronchitis

- (1) Eosinophilic bronchitis model of guinea pigs was successfully developed by intranasal administration of polymyxin B twice a week for 3 weeks.
- (2) Airway cough receptor sensitivity to inhaled capsaicin was heightened but bronchial responsiveness to inhaled histamine was not increased in this model.
- (3) A neuropeptide inhibitor (FK-224) and a thromboxane receptor antagonist (S-1452) but not a beta2-agonist (procaterol) significantly reduced the heightened airway cough receptor sensitivity.
- (4) A histamine H1-antagonist (azelastin) significantly suppressed the heightened airway cough receptor sensitivity.


3. Conclusion


From these results, it is suggested that there are at least 2 different mechanisms for the pathophysiology of persistent nonproductive cough (pathological cough) : heightened airway cough receptor sensitivity induced by eosinophilic inflammation of the large airway in atopic cough and bronchoconstriction based on bronchial hyperresponsiveness induced by eosinophilic inflammation of the central to peripheral airways in cough variant asthma.


Research Products (20 results)


All Other

All Publications (20 results)


[Publications] Fujimura M, et al.: "Cough receptor sensitivity and bronchial responsiveness in patients with only chronic nonproductive cough." Journal of Asthma. 31. 463-472 (1994) 

[Publications] Ogawa H, Fujimura M, et al.: "The effect of the neurokinin antagonist FK-224 on the cough response to inhaled capsaicin in a new model of guinea-pig eosinophilic bronchitis induced by intranasal polymyxin B." Clinical Autonomic Research. 4. 19-27 (1994) 


[Publications] Fujimura M, et al.: "Effect of inhaled procaterol on cough receptor sensitivity to capsaicin in patients with asthma, chronic bronchitis and normal subjects." Thorax. 48. 615-618 (1993) 


[Publications] Fujimura M, et al.: "Effects of methacholine-induced bronchoconstriction and procaterol-induced bronchodilation on cough receptor sensitivity to inhaled capsaicin and tartaric acid." Thorax. 47. 441-445 (1992) 


[Publications] Fujimura M, et al.: "Bronchodilator-resistant cough in atopic patients : Bronchial reversibility and hyperresponsiveness." Internal Medicine. 31. 447-452 (1992) 

[Publications] Fujimura M, et al.: "Involvement of prostanoids in the cough response to capsaicin in patients with asthma and chronic bronchitis of sino-bronchial syndrome." European Respiratory Journal. (1995) 

[Publications] 藤村 政樹: "Cough variant asthma. In Medical Topics Series 喘息'93" メディカルレビュー社, 東京, 8 (1993) 

[Publications] 藤村 政樹: "成人喘息の診断-特殊な喘息-Cough variant asthma. 気管支喘息の診断と治療, 宮本昭正 編" 現在医療社, 東京, (1995) 

[Publications] Fujimura M, Kamio Y, Hashimoto T, Matsuda T: "Cough receptor sensitivity and bronchial responsiveness in patients with only chronic nonproductive cough : In view of effect of bronchodilator therapy." J'Asthma. 31 (6). 463-472 (1994) 

[Publications] Ogawa H, Fujimura M, Saito M, Matsuda T, Akao N, Kondo K: "The effect of the neurokinin antagonist FK-224 on the cough response to inhaled capsaicin in a new model of guinea-pig eosinophilic bronchitis induced by intranasal polymyxin B." Clinical Autonomic Research. 4. 19-27 (1994) 

[Publications] Fujimura M, Sakamoto S, Kamio Y, Bando T, Kurashima K, Matsuda T: "Effect of inhaled procaterol on cough receptor sensitivity to capsaicin in patients with asthma, chronic bronchitis and normal subjects" Thorax. 48. 615-618 (1993) 

[Publications] Fujimura M,Sakamoto S,Kamio Y,Matsuda T.: "Effects of methacholine-induced bronchoconstriction and procaterol-induced bronchodilation on cough receptor sensitivity to inhaled capsaicin and tartaric acid" Thorax. 47 (6). 441-445 (1992) ▼

[Publications] Fujimura M,Sakamoto S,Matsuda T.: "Bronchodilator-resistive cough in atopic patients : Bronchial reversibility and hyperresponsiveness" Internal Medicine. 31 (4). 447-452 (1992) ▼

[Publications] Fujimura M,Sakamoto S,Kamio Y,Matsuda T.: "Relationship between cough receptor sensitivity to inhaled tartaric acid and bronchial responsiveness to methacholine in normal and asthmatic subjects" Eur Respir J. 5. 291-295 (1992) ▼

[Publications] Fujimura M,Kamio Y,Kasahara I,Bando T,Hashimoto T,Matsuda T.: "Involvement of prostanoids in the cough response to capsaicin in patients with asthma and chronic bronchitis of sinobronchial syndrome" Eur Respir J. (in press). (1995) ▼

[Publications] Fujimura M.: "New concept on cough" Special Lecture in Hokuriku Area Joint Meeting of 32th Nippon Kekkaku-byou Gakkai, 31th Nippon Kyoubushikkan Gakkai, 16th Nippon Kikanshi Gakkai, 1st Nippon Sarcoidosis Gakkai, May 29th, 1993, Kanazawa City. ▼

[Publications] Fujimura M.: "Eosinophilic bronchitis of central airway : comparison with cough variant asthma" Symposium "Allergy of trachea and larynx". 7th Clinical Meeting of Japanese Society of Allergology, May 24th, 1995, Okayama City. ▼

[Publications] Fujimura M.: Cough variant asthma.Medical Topics Series Asthma'93. Medical Review Company, Tokyo, October (in Japanese), 102-109 (1993) ▼

[Publications] Fujimura M.: Laboratory test : Cough receptor sensitivity test. Mannual of Pulmonary Medicine for Residents. Yutaka Mizushima edt., August (in Japanese), 136-140 (1993) ▼

[Publications] Fujimura M.: Cough variant asthma, A Special Type of Asthma : Diagnosis of Adult asthma. Terumasa Miyamoto edt.Gendai-iryousha.June (in Japanese), (1995) ▼

URL: https://kaken.nii.ac.jp/report/KAKENHI-PROJECT-04807055/048070551994kenkyu_seika_hokoku_

Published: 1999-03-08