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2009 : August 2009 - Fast Breaking Papers : Peter J. Barnes

FAST BREAKING PAPERS - 2009

August 2009



Peter J. Barnes talks with *ScienceWatch.com* and answers a few questions about this month's Fast Breaking Paper in the field of Immunology.



Article Title: Immunology of asthma and chronic obstructive pulmonary disease

Authors: Barnes, PJ

Journal: NAT REV IMMUNOL

Volume: 8

Issue: 3

Page: 183-192

Year: MAR 2008

* Univ London Imperial Coll Sci Technol & Med, Natl Heart & Lung Inst, Dovehouse St, London SW3 6LY, England.

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SW: Why do you think your paper is highly cited?

Asthma and chronic obstructive pulmonary disease (COPD) are amongst the most prevalent diseases in the world and both are increasing, especially in developing countries. In both diseases, there is a chronic inflammation that is orchestrated by immune mechanisms and recent research has shone a light onto the immunological mechanisms involved.

The paper is highly cited as it brings together much of this new research in a single review and compares and contrasts these two common airway diseases. This is a review that represents a distillation of new knowledge on this topic.

SW: Would you summarize the significance of your paper in layman's terms?

This review brings together a lot of new research into the underlying immune mechanisms of asthma and COPD, which are amongst the commonest diseases in the world.

SW: How did you become involved in this research, and were there any problems along the way?

I have been working in the field of asthma and COPD research for 30 years. Over the past 20 years, I have been the most-cited researcher in the world in the field of respiratory medicine.

My research involves studying the underlying inflammatory mechanisms of asthma and COPD in order to better understand the disease process and to identify novel targets for the development of new treatments in the future. The major problem in this field is the relative lack of research funding.

"We have identified the molecular pathways leading to this glucocorticoid resistance and have found new ways of reversing it, which may provide a novel therapeutic approach to severe inflammatory

SW: Where do you see your research leading in the future?

Now that several novel pathways have been identified in asthma and COPD, there is optimism for the development of more effective therapies. This is especially needed for treatment of severe asthma and COPD, which do not respond well to glucocorticoids.

We have identified the molecular pathways leading to this glucocorticoid resistance and have found new ways of reversing it, which may provide a novel therapeutic approach to severe inflammatory diseases of many types in the future.

*diseases of
many types in
the future."*

SW: Do you foresee any social or political implications for your research?

Since asthma and COPD are quite common, this has obvious social and political implications, particularly in view of the large amount of healthcare spending currently being devoted to these diseases, which are currently incurable.

Professor Peter J. Barnes, DM, DSc, FRCP, FMedSci, FRS

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KEYWORDS: CHRONIC OBSTRUCTIVE PULMONARY DISEASE, COPD, REGULATORY T-CELLS; THYMIC STROMAL LYMPHOPOIETIN; AIR-FLOW LIMITATION; PERIPHERAL AIRWAYS; GENE-EXPRESSION; DENDRITIC CELLS; INDUCED SPUTUM; ATOPIC ASTHMA; TH2 CELLS; ALLERGIC INFLAMMATION.

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