Get ready for spring - hay fever worse in spring than summer

December 21 2011

Hay fever (runny nose, sneezing, itchy eyes) is caused by an allergy to pollen, and most commonly to grass pollen. These tiny grains bring misery to sufferers through spring and summer and pollen levels are often included as part of weather reports to help sufferers prepare. However new research published in BioMed Central's open access journal *Clinical and Translational Allergy* shows that, regardless of medication and other allergies, for the same grass pollen levels, hay fever symptoms are worse in the first half of the season than later on.

Worldwide there are over 10,000 species of grass and most of these species are able to cause symptoms in people who have hay fever. The different species release their pollen sequentially so that, for a sufferer, hay fever, also called seasonal allergic rhinitis, can last for the whole three months that grasses are flowering.

Researchers from Netherlands compared daily pollen counts with daily symptoms reported by hay fever sufferers (with a positive skin test to grass pollen) living around Leiden. The people involved in the study were also tested for other common allergies including birch pollen (birch releases its pollen just before the start of the grass pollen season), house dust mites, dogs and cats. The study covered the consecutive hay fever seasons of 2007 and 2008.

Symptoms of hay fever definitely matched the concentration of pollen in the air and also the amount of medication taken. Higher medication use was seen during days with high pollen counts and severe symptoms,

while less medication was taken on days with low pollen counts and milder symptom severity.

Surprisingly the symptom scores at the beginning of the season were higher than scores at the end of the season for a similar pollen count. This could not be accounted for by medication taken such as antihistamines, nor by the long term use of nasal steroids. The birch pollen season precedes grass pollen and over half of the sufferers were also allergic to birch. However the results showed that having both allergies also could not explain the differences between symptom scores in the beginning and the end of the season.

Dr Letty de Weger, from Leiden University Medical Centre, who led the research explained, "It is possible that sufferers report their symptoms as milder later in the season because they get used to their hay fever, or that the pollen from late flowering species is less allergenic than pollen from early flowering grass. However there has been other work which suggests that high exposure to grass pollen early in the season may down regulate inflammation on subsequent contact possibly via the production of allergen specific regulatory T cells."

More information: Accurate Difference in symptom severity between early and late grass pollen season in patients with seasonal allergic rhinitis Letty A de Weger, Thijs Beerthuizen, Jeannette M Gast-Strookman, Dirk T van der Plas, Ingrid Terreehorst, Pieter S Hiemstra and Jacob K Sont. *Clinical and Translational Allergy* (in press)

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