Allergy

G Koeppen-Schomerus et al. Archives of Diseases in Childhood. November (2001), Vol. 85 #5 p 398.

Studies of twins provide useful insight into the identity and relative effectiveness of genetic factors and environmental factors in the aetiology of disease. Accurate identification suggests treatment methodologies and more realistic assessment of any environmental contribution.

The study included all twins born in England & Wales, 1994 to 1995. 4910 pairs were studied by questionnaire (to parents) at the age of 4.

Postal Qr. for signs of prescription treated asthma, and zygosity (based on physical similarity). Zygosity – were they genetically identical or non-identical.

Zygosity test was validated and found to be good 95% of the time.

Qr.'s were completed by the parents of 1658 monozygotic (identical), 1651 dizygotic (same sex) and 1601 dizygotic (opposite sex).

68% of incidence of asthma in 4 year olds seemed to be of heritable origin (95% CI = 50%-85%).

13% of incidence of asthma in 4 year olds seemed to be due to shared environment (95% CI = 0%-29%) not stat sig.

19% of incidence of asthma in 4 year olds seemed to be due to a non shared environment (95% CI = 15%-23%)

Comment
Strong evidence of a predominantly non-environmental origin of childhood asthma.

Experience suggests that a predisposition is probably not due to a single gene. No simple test will as yet allow the genetic predisposition of an individual child to be determined.

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