

POSTER PRESENTATION

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Number of nexin links detectable at standard electron microscopy of normal human nasal cilia and at nexin link deficiency

U Stenram*, C Cramnert

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Objective

We described 11 years ago 3 patients with missing nexin links as a possible cause of primary ciliary dyskinesia (PCD). The assumption was substantiated last year by finding a mutation in these patients. Here we counted the number of nexin links per cilium in normal cilia and at deficiency of nexin links.

Methods

We counted the nexin links, inner (IDA) and outer (ODA) dynein arms and microtubuli in each of, if possible, 50 cilia in 41 patients with normal cilia, 4 patients with deficiency of nexin links only and 4 with deficiency of nexin links and IDA.

Results

In the control group the median number of nexin links was 4.5 per cilium, range 3.4 - 5.3. In the second group the mean number of nexin links per cilium was 1.1 - 1.4, in the third group 0.8 - 1.2, per patient. The median number of IDA was in the control group 4.2, range 3.3 - 5.2. In groups 2 and 3 the numbers were 3.0 - 3.5 and 0.2 - 1.0, respectively, per patient. Numbers of ODA were normal in all groups.

Conclusion

It is possible to reliably count the number of nexin links in nasal human cilia and to distinguish cases with missing nexin links from normal controls.

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University of Lund, Lund, Sweden

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