Reviewer's report

Title: Translocation pathways for inhaled asbestos fibers

Version: 1 Date: 19 September 2007

Reviewer: James Parker

Reviewer's report:

General

General Comments
This is an interesting review of the possible effects of capillary and interstitial fluid dynamics on asbestos fiber transport and how these physiologic processes could account for the observed distributions of the fibers. The approach appears well thought out and the authors propose reasonable effects of these forces on fiber movement.

Although a mention is made of the metalloproteinase activation by lung edema, some comments should be included as to the possible magnitude of the effect of these proteases on the fiber distributions.

There are no page numbers on the manuscript so I have numbered them from the title page.

The spelling of fiber (fibre) should be standardized since both the American and British versions are used throughout the manuscript.

The manuscript is generally well constructed and organized but the English sentence structure and tenses are often awkward or incorrect. The manuscript should be revised for English grammar usage. I have mainly tried to edit the English usage but further editorial editing is suggested as needed.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

The manuscript should be revised for correct English grammar usage.

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Specific corrections

Page 1
Abstract
Page Line
1 2 ...reach the lung
14 subatmospheric Interstitial pressure gradient
15 from the lung interstitium
10 the pleural space
14 How do the asbestos fibers enter the body without exposure?
20 particulates
21 numbers
22 the tissue

Page 2
line
16 to other
18 the process of asbestos

Page 3
line
2 establish contact
6 the reduced seven
7 in enzyme misspelled
8 these effects indicate
9 may bond... surfaces
10 fibronectin misspelled
14 induce release of
18 the form
19 the most

Page 4
line
1 larger dimensions
6 are transported large distances from the source and
8 addresses the problem
10 down the gradient for
14 fenestrations are other possible routes
15 fiber phagocytosis
17 phagocytose... fiber...
19 fiber accumulation... after a six week exposure
23 the long interstitial fiber burden increased sharply at

Page 5
What is the source of these fibers in people who are not exposed?

Revise this sentence.

...extremity farther from the wall
...the case
...grounds
...gradients during a physiologic conditions and interstitial
...the lung
...features occur regardless
...an increased
...for hypoxia

Pressure increased from
...reflecting the differences in fiber accumulation

...relatively greater
...the pleural cavity
...also suggests a geometric
...lacks a fluid dynamics based interpretation at present

...asbestos fiber translocation... envisioned by considering

...side, and these strain
...valves should prevent such fluxes
...and they
...fibers... fibers
...can be attributed to fiber translocation buy two routes
...fibrosis which may result in a progressively greater
15 ...exposed to asbestos. Furthermore,
16 ...where asbestos bodies have been observed
18 ...The size of the arrows for

Page 13
3 ...particles, it is difficult to envision
5 ...On the one hand, translocation
7 ...particulates
8 ...numbers; on the other hand, Translocation
9 ...resistance.

Discretionary Revisions (which the author can choose to ignore)

What next?: Accept after minor essential revisions

Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.