Reviewer's report

Title: New chemolysis for phosphate calculi ----an study in vitro

Version: 1 Date: 24 February 2005

Reviewer: William Robertson

Reviewer's report:

General
This is an interesting paper that re-visits the problem of dissolving urinary calculi by chemolysis. There are several problems with this paper that will need to be addressed by the authors.

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

1. The information provided by the authors in the Materials and Methods section is insufficient to allow another researcher to duplicate these studies. Firstly, it is not sufficient to say that the Artificial Urine contained "minor amounts of calcium chloride .... sodium citrate." Secondly, it is not sufficient to say that for S2 (and presumably for S1) all the ingredients could not be dissolved at pH 4. The exact concentrations of the constituents should be known, otherwise the reader cannot repeat the experiments. Thirdly, the paragraph at the bottom of page 7 is totally uninterpretable. How much of these individual solutions of citrate were added to the various test solutions at the various pH values and dilutions? Again the reader has no way of being able to repeat the studies based on the "data" provided.

2. In addition to providing the above information, I would strongly suggest that the authors construct a table showing the final concentrations in mmol/l of all the ions in each of the test solutions under all conditions of pH and dilution. Only that way can the reader understand and interpret what is going on in these dissolution studies.

3. The Discussion should contain an interpretation of the results from the various experiments. I can provide one if the authors are stuck. It seems to me that S2 and S1 are not much better than R in terms of dissolution ability. In addition, I would be very concerned about whether or not S1 and S2 in their most active forms would be tolerated by the urinary tract.

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

1. In Table 2, how are the data expressed - mean and SD or mean and SEM?

2. In Fig 2, it is difficult to differentiate what solutions have been tested. Can the authors not find better ways of distinguishing between the solutions in the form of bars that they use in the figure?

Discretionary Revisions (which the author can choose to ignore)

What next?: Unable to decide on acceptance or rejection until the authors have responded to the
major compulsory revisions

Level of interest: An article whose findings are important to those with closely related research interests

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

Statistical review: No

Declaration of competing interests:

I declare that I have no competing interests.