Reviewer’s report

**Title:** Renal papillary calcification and the development of calcium oxalate monohydrate papillary renal calculi

**Version:** 2 **Date:** 27 January 2013

**Reviewer:** Cecilia Maria Cracco

**Reviewer’s report:**

**Major compulsory revisions**

1) The introduction is completely related to the mechanisms of formation of soft tissues calcifications in a variety of models, but there is nothing connecting such data with the Randall's plaques and urinary stone formation: therefore the last paragraph, declaring the aim of the present study, should be sustained by a specific and clearly detailed rationale, also documented by the related references.

2) Materials and methods, Patients and samples: 4 patients retrospectively evaluated sound more like a case report. This should be also detailed in the Abstract (Methods) and discussed accordingly.

3) There is nothing related to the previous urologic surgery of such patients: did they ever undergo ESWL, RIRS, PNL or open/laparoscopic urologic surgery for urolithiasis in the past? Because this could be a reason of epithelial/subepithelial injury.

4) Results: which is the demonstration, desumed from the results of the patients analysed, that COM papillary calculi result from subepithelial lesions in the tip of the papilla? How can you demonstrate that it's not the contrary? (lesions as a consequence of urolithiasis)

5) Discussion: why should some lesions evolve into stones and others not? Did you study crystallization inhibitors in these patients? Which are the practical clinical consequences of these observations?

6) after the Discussion a Conclusion is lacking. The likelihood of developing more COM papillary calculi in case of a high number of subepithelial calcifications sounds a bit weak and generic, apart from being a widely accepted concept.

**Minor essential revisions**

1) In Materials and methods, Patients and samples: endoscopic nephrolithotomy? Please explain this term, is it RIRS? or rather PNL?

2) Materials and methods, Renal calculi: it is not clear how such calculi have been collected. Are they all from spontaneous elimination? (as it seems from the results). Or have they also been collected during RIRS?

3) Have the stones been cultured? Often it happens that urine culture is negative while stones contain bacteria. This issue should be detailed and discussed.
4) How were the HU of the COM stones in these patients from TC studies? You mention the interest of such data in the Discussion but nothing is reported in the Results.

Discretionary revisions
None

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

Quality of written English: Acceptable

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

Declaration of competing interests:
No competing interests