Reviewer’s report

Title: Management of acute renal colic in the UK: A questionnaire survey

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Reviewer: Maryse Lapeyre-Mestre

Reviewer’s report:

General

This study is an attitudinal survey about management of acute renal colic in emergency wards in the UK. This approach is interesting since the incidence of acute renal colic in Europe is high, estimated to be 0.4% annually (the lifetime risk of developing an acute renal colic is estimated between 1 to 10% of the whole population). Some studies have shown that management of acute renal colic, and especially management of pain, widely varies across countries, and differs from guidelines (when they are available) or evidence-based data.

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

This is not clear how the mail survey has been done. The first problem concerns selection of emergency departments: I am not sure that departments were randomly selected, nor selection was stratified on workload, nor how did the authors do when departments did not reply after several reminders. The authors report that questionnaires were sent by post to 106 departments, without definition of who was requested to complete the questionnaire (the head of the department, any senior medical doctor, any medical doctor working at least 6 months). Thus, this lack of information could lead to selection bias, which needs to be discussed. Moreover, even if the participation rate is excellent (100%), we do not know how middle-grade doctors were invited to answer in place of senior medical doctors, and how this modification in the professional characteristics of respondents could influence results. It would be interesting to take into account these discrepancies in the analysis, or at least, to discuss this point.

Results section: in my opinion, all results could be presented in a single table, indicating for each category of workload, the total number of departments in the UK, the number of departments selected for the study, the proportion of middle-grade doctors responding to the questionnaire, the location of urology services, X-Ray facilities, etc... Concerning number of investigations, I don't understand why authors did not compare it with a non-parametric ANOVA. Moreover, it is important to underline that lack of urology services in the hospital leads to an increasing risk of lack of investigation. In table 2, this is very unclear to understand how statistical analysis was made. Data presented in the last column are wrong, since presented values are those of the Chi2 test, which is not valid in these conditions, a value <5 being present at least in one cell of the contingency table. In these conditions, Fisher exact test is not applicable (only to compare dichotomous variables). I suggest to authors to regroup departments with highest workload (more than 50,000 patients): in this case, the comparison with Chi2 remains valid.

In the table, the line corresponding to IVU could also be simplified by giving mean +/- SD and median value.

In discussion part (and bibliography), it is necessary to discuss results according evidence-based data available in the field. There is no reference to the Cochrane library which includes several systematic reviews (made by Cochrane network), and also others reviews or controlled trials in this field. As an example, a recent systematic review is available in the Cochrane database of systematic reviews (more recent update in February 2004) indicating that both NSAIDs and opioids can provide effective analgesia in acute renal colic. However, opioids are associated with a higher
incidence of adverse events, particularly vomiting. Given this high rate of adverse events with the use of opioids, and the greater likelihood of requiring further analgesia, NSAIDs remain first choice treatment. This review confirms 10 years after the results presented by Labrecque et al in a metanalysis published in 1994 (Arch Intern Med 1994) which is not mentioned by the authors. Use of parenteral opiates could be a first choice treatment in case of NSAID contraindications, which include 3rd trimester of pregnancy (absolute contra-indication), patients with history of gastroduodenal ulceration, allergy and also patients with renal insufficiency. Concerning route of administration, venous administration is the first choice whatever the drug (NSAID, morphine, paracetamol).

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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)

In the statistical methods part, I think that it would be confusing to denote the Kruskall-Wallis test as "X", since this term is already and more accurately used for Chi-squared test. I suggest that this part could be simplified, since statistical analysis is not very sophisticated and in some aspects questionable. It would be enough to indicate that comparison of qualitative variables according to categorised departmental workload (location of X-ray, urology services, number of investigations (categorised)) were made using chi-squared test or Fisher exact test when assumptions for Chi2 were not met, and that comparison of quantitative variables (number of films) were made with a non parametric analysis of variance (Kruskall-Wallis test, which could be noted as KW or non parametric ANOVA?).

Investigations performed in the emergency aim to 1) to confirm the diagnosis with teh identification of nephrolithiasis and the dilation of urinary tract and 2) to assess the seriouness of the crisis, and 3) to evaluate the morphology of the urinary tract and the risk of spontaneous emission of the lithiasis. In case of non complicated acute renal colic, clinical examination X-ray and USS could be sufficient in young apyretic patient, with normal diuresis, and rapidly relieved by first choice analgesic. In case of complicated ARC, complementary investigations including UVI and or CT are needed. Authors could discuss these 2 levels of seriousness, and perhaps discuss the availability of some emergency units lacking X-ray facilities or surgical wards to manage patients with very serious or life-threatening conditions. For non british readers (like me!), a short presentation of the organisation of emergency departments in UK and their role in primary, secondary or tertiary care could be useful. Is it possible that this specific organisation could partly explain that the practice is below standard in a quarter or emergency departments in UK?

In 2 departments, use of Codydramol was reported. It would be better to give the names of compounds (I suppose that this combination includes codeine and paracetamol, with an oral administration, isn't it?).

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Discretionary Revisions (which the author can choose to ignore)

I agree with authors that national guidelines are necessary, but not always sufficient to improve practice since guidelines are sometimes not foloowed in practice. Moreover, in the management of acute renal colic, we recently showed that French national guidelines for the management of acute renal colic in emergency departments in France were partly followed (Jean et al, Eur J Clin Pharmacol 2001, especially for the first choice of intravenous NSAID. However, daily doses of drugs were underestimated in real practice in 30% of cases, opiates were underprescribed in case of refractory pain, and pain was assessed during stay in emergency wards only in 50% of cases.

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: Acceptable

Statistical review: No

Declaration of competing interests: None