Reviewer’s report

Title: A child presenting acute renal failure secondary to a high dose of indomethacin: a case report

Version: 3 Date: 2 August 2008

Reviewer: Corsino Rey

I am familiar with the literature and believe that this case meets one of the 9 criteria for evaluation in the journal: An unexpected event in the course of observing or treating a patient

Has the case been reported coherently?: No

Is the case report authentic?: Yes

Is this case worth reporting?: Yes

Is the case report persuasive?: No

Does the case report have explanatory value?: Yes

Does the case report have diagnostic value?: Yes

Will the case report make a difference to clinical practice?: Yes

Is the anonymity of the patient protected?: Yes

Comments to authors:

The authors reported a case of acute renal failure (ARF) secondary to a high dose of indomethacin.

The study is interesting due to the lack of data about indomethacin intoxication. However, case report should be described more exhaustively before publication, especially ARF diagnosis, severe hyponatremia and ARF therapy.

GENERAL COMMENTS

1. Criteria to perform ARF diagnosis. If RIFLE criteria were used, creatinine did not increase 1.5 times to achieve, at least, Risk criteria of RIFLE classification. To achieve urine output criteria it is necessary to specify diuresis in ml/kg/h during 6, 12 and 24 hours before ARF diagnosis.

2. Hyponatremia:
   a) The patient was already hyponatremic (132 mmol/L) at admission in the neonatal unit. What was the explanation? Was the patient receiving hypotonic
fluids?

b) How much time pass between sodium of 132 mmol/L and sodium of 121 mmol/L? Did severe hyponatremia cause cerebral edema? How was hyponatremia exactly treated? How much time was the child hyponatremic? Is there any relation between indomethacin intoxication and severe hyponatremia?

3. ARF therapy: it was not clear if the reason for continuous venovenous hemofiltration (CVVH) therapy was ARF or the need for a negative balance. How was creatinine level at the moment CVVH began?

4. A table or figure showing the evolution of serum creatinine, urea, sodium, potassium, and diuresis before and after indomethacin intoxication and during CVVH therapy could be very useful for a better description of the case.

5. DISCUSSION:

a) It is well known that indomethacin therapy is associated with renal impairment in neonates (Ref 9. Akima S et al.). In the reported case, mild renal function impairment and rapid recovery suggested that indomethacin intoxication did not produce more renal damage than a therapeutic dose.

b) I did not understand why the computerized therapeutic prescription program with a system of dose error alarms did not detect the overdose. The specific failure in the Pharmacy’s computerized system should be described as well as the modifications to be performed to avoid new overdoses.

MINOR COMMENTS

1. CASE PRESENTATION:

a) “The patient was .../... transferred to the neonatal unit... In which unit was the infant before he had been transferred to the neonatal unit?

b) Edema on examination at admission: what was the fluid balance during the previous days?

c) ...fall in diuresis from 4 to 1.5 mg/kg/h. Diuresis should be expressed in ml/kg/h.

d) No change in hemodynamic situation (blood pressure and lactate). Were there changes in heart rate and SvO2?

e) Renal function and diuresis recovered after 33 hours of CVVH therapy. It was a very fast recovery. Again it is important to know creatinine level at the moment CVVH began?

2. DISCUSSION:

“However, in our case, despite the severity of the ARF, recovery or renal function was complete within a few days”.

What were the criteria to classify ARF as severe? RIFLE classification uses risk, injury and failure as severity levels of renal dysfunction.
Quality of written English: Needs some language corrections before being published