ZIDOVUDINE OVERDOSE DUE TO THERAPEUTIC ERROR IN NEWBORN

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Introduction: Zidovudine (azidothymidine, AZT) is routinely prescribed in antiretroviral therapy also for primary HIV prophylaxis in newborns. Only few cases of therapeutic errors from AZT, with various degree of clinical manifestations (one lethal case is also described) are reported in the medical literature. We describe a case involving a newborn that received an erroneous dose of AZT as consequence of incorrect understanding of the indication provided by health professionals.

Case Report: A 5-day-old infant (3.2kg b.w.) erroneously received at home by parents a dose 10-fold higher (10.3ml of AZT 100mg/10ml every 12hours for 2days) than the recommended dose in newborn (8.0 mg/kg b.w./die, corresponding to 1.3ml every 12hours in our patient). Close monitoring in pediatric ward for possible appearance of neutropenia, anemia and metabolic acidosis (lactate) was scheduled. Pediatricians were alerted also for late appearance of AZT-induced neutropenia. AZR-prophylaxis restarted 6days after the overdose. The patient remained asymptomatic during hospitalization and the following two weeks: none of the expected clinical manifestations were observed. The history revealed that, at discharge from nursery, the parents received from nurses the indication to use 1ml syringe (not included in the drug-box) to easily obtain the prescribed dose (1.3ml every 12hours). At home, however, the parents dispensed the drug using the 10 ml syringe included in the drug-box + 0.3ml using a insulin-syringe (1ml capacity).

Discussion and conclusion: Erroneous administration of AZT may happen: the modality of error is always the same (incorrect use of the syringe included on the drug-box) in the few cases of overdose reported in medical literature. Only when the administration of AZT occurs in babies over 10 kg b.w., the medication-included syringe may be safely used. In case of HIV prophylaxis in newborns (when the recommended dose is few ml of solution) the instruction can be confused by parents, causing overdose with potential severe consequences. In our case the erroneous administration occurred for "only" 48hours, probably not sufficient to cause toxicity. To avoid this unintentional overdose, should be advisable (i) to correctly inform parents and (ii) to evaluate (by the manufacturer) the appropriately size of the medication administration vehicle (as syringe) for babies weighing less than 5kilograms.