Potassium chloride: A high risk drug for medication error

Sir,

Despite the improved system of manufacturing, packaging and delivery, 44,000-98,000 patients die each year as a result of medical error.[1] Potassium chloride has been involved in many fatal incidences in the past. Between 1996 and 1998, the Joint commission for Accreditation of Healthcare Organizations (JCAHO) found 10 deaths due to wrong administration of potassium chloride, and six cases of these were due to identical labels. The Commission recommended that concentrated potassium chloride should not be made available outside the pharmacy unless appropriate specific safeguards are in place.[2,3] Recently, another near fatal report of medication error with potassium chloride has been published.[4] The 12 points recommendations [Table 1] about pharmacist's and multidisciplinary professional's role in preventing medication error with potassium chloride have been

Table 1: Recommendation for reducing potassium related medication error[5]

To constitute high level multidisciplinary team from pharmacy, therapeutic committee, risk management department and patient care team to define and implement strategy to reduce accident with potassium chloride.
To hold multidisciplinary review to identify the areas and barriers for availability and standardized protocol for premixed potassium chloride solutions.
To make the clear guidelines for the use of potassium chloride by pharmacist and therapeutic committee.
To make quick availability of potassium chloride according to guidelines.
Remove all 20 mEq/10 ml ampoules of potassium chloride which are often mistaken for other drugs. Keep 40 mEq/20 ml size ampoules as they are big in size.
Addition of auxiliary florescent warning label reading "CAUTION. Concentrated potassium chloride. Fatal if injected undiluted. DILUTE before use".
If premixed bags are available add warning tag for the method of use.
Advocate pharmacist intervention whenever non-standard order of potassium chloride is received.
Give detail order like total dose, volume of dilution, rate of infusion etc.
Non standard solution should be prepared in pharmacy when ever required.
Choose designated area for storage of potassium chloride only.
To hold review and discussion about any mishap and method of prevention.

published in the literature.[5] Look alike or sound alike names, similar looking vials or ampoules, same colour labels, identical packing, improper handling and, haste or human mistake in administration have all been identified as the reason for medication errors.[6] Various organizations like the Institute for Safe Medication Practices (ISMP), Food and Drug Administration (FDA) and, Institute of Medicine (IOM), have issued guidelines for the safe practice of medication to the patients.[7] In India, small scale manufacturers do not adhere to these guidelines because of various reasons like non availability of new technology, absence of strict compliance and severe punishment to defaulters. In conclusion, potassium chloride should be handled with utmost care, should not be available on routine drug counters and should be made available on demand from the drug store only.

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REFERENCES

1. Kohn LT, Corrigan JM, Donaldson MS, editors. Institute of Medicine Report: To Err is Human: Building a safer health system. Washington, DC: National Academy Press; 1999. Available from: http://bob.nap.edu/html/to err is human/. [last accessed on 2004 Sept].
2. Cohen MR. Ongoing potassium chloride concentrate errors kill patients: Issue of cost versus care? Hosp Pharm 1994;31:187-8.
3. Patients safety alerts. Medication error prevention: Potassium chloride. Int J Qual Health Care 2001;13:55.
4. Shah HD, Shah M. A case of look-alike medication errors. Indian J Pharmacol 2011;43:482-3.
5. David U, Sylvia H. Medication safety alerts. CJHP 2002;55:278-80.
6. Kothari D, Gupta S, Sharma C, Kothari S. Medication error in anaesthesia and critical care: A cause for concern. Indian J Anaesth 2010;54:187-192.
7. Martin DE. Medication error persist: Summit addresses intravenous safety. APSF Newsletter 2008; 23:37-9.

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Website: www.ijaweb.org

DOI: 10.4103/0019-5049.93357