IFOSFAMIDE-INDUCED HEMORRHAGIC CYSTITIS: INCIDENCE IN A PATIENT SAMPLE AND POSSIBLE CHEMIOTHERAPY PROTOCOL REVIEW

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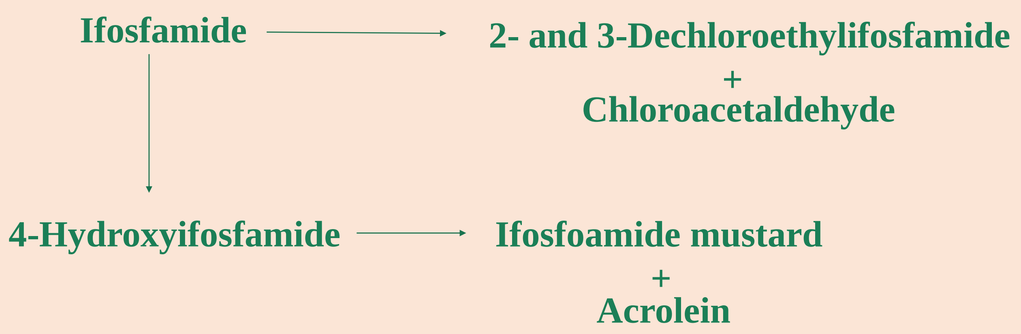
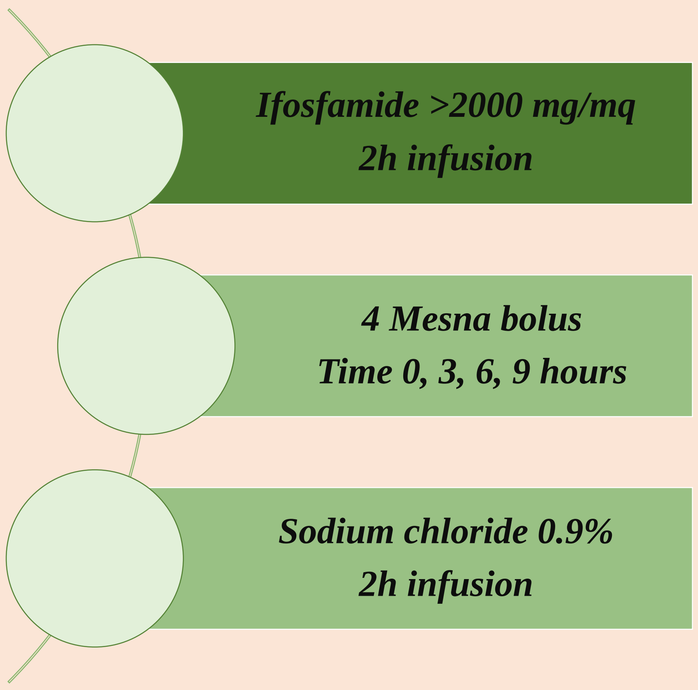
BACKGROUND AND IMPORTANCE

Oncology clinical pharmacist detected several hematuria cases caused by toxic metabolite (acrolein) of ifosfamide.



AIM AND OBJECTIVES

A retrospective analysis has been carried out with the aim to determine the incidence rate of adverse events associated with high-dose ifosfamide.



MATERIAL AND METHODS

Patients-data from June 2021 to June 2022 were extrapolated from computerized medical records. Patients who had received ifosfamide-based combination chemiotherapy were included. Treatment consisted of ifosfamide > 2000mg/mq in a 2-hour infusion. Hydration protocol included 4 mesna bolus administration (time 0, 3, 6, 9 hours) and sodium chloride 0.9% infusion over 2 hours. Data has been processed according to the following criteria: sex, age, diagnosis, chemiotherapy protocol, ifsofamide dose, hematuria stick result (test positivity rate), dose reduction due to other toxicity.

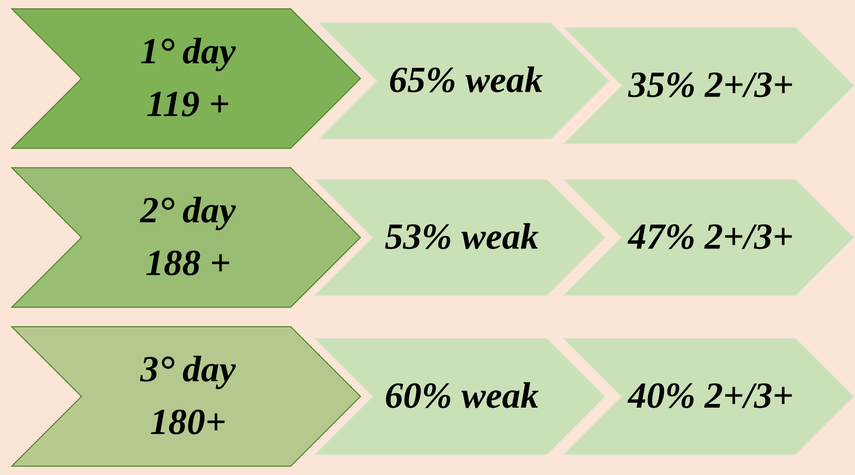
RESULTS

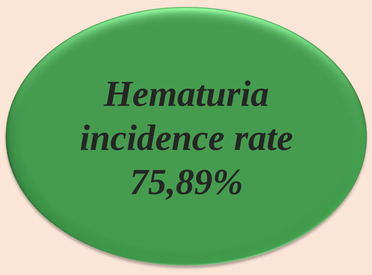
119 positive results are detected in the first 249 days: 65 % weak positivity (trace/1+) and 35% 2+/3+ positivity level. On the second days, 188 positive results with 53% weak positivity (trace/1+) and 47% 2+/3+ positivity level and in the 241 third days, 180 positive result, especially 60% weak result (trace/1+) and 40% 2+/3+ positivity level. Ifosfamide reduction dose occured in 87 patients and 3 patients interrupted ifosfamide administration. Recorded toxicities are: neutropenia (from grade2 to 4), anemia (grade2/grade3), neutropenic fever and gastro-intestinal toxicity.

Patients studied were 84 (33 female) and the mean age was 51 years. Most patients were affected by soft tissue sarcoma

Chemotherapy protocol mainly prescribed was ADM-IFO over 3 days and only two prescriptions of VAI chemiotherapy protocol over 2 days; ifosfamide mean dose was 4488 mg.

Each patient received many treatment cycles (mean 2,35), including 74 first administration. Hematuria incidence rate was 75,89%. 27 patients had a negative stick result all three days.





CONCLUSION AND RELEVANCE

Relationship between hematuria positivity test-age and hematuria positivity test-dose was not observed. Then, any relevant hematuria difference was observed between first administration and subsequent cycles; a statistical analysis including a greater sample will be carried out in order to confirm the data. Prophylaxis of ifosfamide-induced hemorrhagic cystitis should be reviewed, by implementing hydration and by modifying dose and administration route of mesna. Furthermore, infusion duration will be evaluated with the aim to reduce ifosfamide toxicity.

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