

Clinical study of risk factors associated with magnesium oxide for treatment of constipation in different age groups

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[Background] Magnesium oxide is an osmotic laxative widely used for treatment of constipation in children and the elderly. However, it has been administered indiscriminately, and side effects have been reported. [Methods] Using medical records, the present study investigated children and the elderly who had been prescribed magnesium oxide, in order to clarify the associated risk factors and side effects. Children aged 0-14 years and elderly patients aged 65 years or older who received magnesium oxide were studied. Univariate analysis was carried out, and the risk factors of side effects were investigated. Fisher's exact test was performed to calculate the odds ratios. [Results] Children who developed side effects were significantly younger than those who did not. It was also clarified that lean children were 6.5 times more likely to develop side effects than normal to obese children ($P<0.05$). On the other hand, elderly individuals who developed side effects had significantly higher Cr and BUN levels than those who did not. Fisher's exact test also revealed that patients with low body weight, poor renal function, and a history of hyperuricemia had higher risks of developing hypermagnesemia than those who did not ($P<0.05$). [Conclusion] These results suggest that younger children have a higher risk of developing side effects when taking magnesium oxide preparations, whereas elderly individuals with a lower body weight and poor renal function are also more at risk.