Dissolution test to compare omeprazole liquid formulations of tablet and capsule

Lee SH, Chang HJ

Graduate School of Clinical Pharmacy, Sookmyung Women's University

Omeprazole is usually administered as enteric-coated granules or tablets because of acid-labile characteristic. For children and adult patients who can not swallow, it can be mixed with water or other liquids after capsule is opened or tablet is grinded. This study performed to compare omeprazole liquid formulations of tablet and capsule. Omeprazole 20mg enteric coated granule in capsule were opened and 20mg enteric-coated tablets were grinded to be mixed with sodium bicarbonate solution, orange juice or water. Each liquid formulation was poured into dissolution tester, mixed with first solution(artificial gastric juice; pH 1.2) for two hours, then with second solution(artificial enteric juice; pH 6.8) for thirty minutes. pH was measured at different time for two and half hours. Sample aliquots were mixed with lansoprazole, internal standard, and injected to HPLC system.
As results, pH of sodium bicarbonate solution of omeprazole was significantly higher than that of orange juice or water in first solution (6.15-7.47 vs 1.16-1.23, $p<0.005$). Concentration of omeprazole granule or powder in sodium bicarbonate solution sustained significantly higher than powder in other solution (15.20-19.28 vs 0.30-0.82, $p<0.015$).
In conclusion, water or orange juice should be avoided as diluents because omeprazole is not stable at low pH. Granules from enteric-coated granules from capsule and powder from tablet in sodium bicarbonate solution was stable during dissolution test, which would be appropriate and recommended for patient who can not swallow solid preparations.

[PF1-2] [10/19/2000 (Thr) 10:00 - 11:00 / [Hall B]]

Levodopa response after unilateral Pallidotomy in advanced Parkinson 's disease

Park EH[o1], Shin HT[1], Oh JM[1], Lee U[2], Kim YS[3],

[1]Graduate School of Clinical Pharmacy, Sookmyung Women's University , [2]Gachon Medical College Gil Medical Center,[3]Neurosurgery Department, Hanyang University Medical School

In recent years, unilateral pallidotomy has been used in the symptomatic treatment of patients with advanced Parkinson's disease and motor complications. However, the procedure is being performed in the absence of follow-up data on its retained effects and levodopa response. The purpose of this study was to investigate the levodopa response after unilateral pallidotomy in advanced Parkinson's disease. Fifty patients who had had unilateral pallidotomy for advanced Parkinson's disease were investigated, retrospectively. The study consisted of 23 men and 27 women with a mean age of 58.6 years with mean disease duration of 7.22 years. Clinical evaluation of levodopa response was measured by means of the total levodopa equivalents. There was no statistically significant change in the total dose of levodopa equivalents. The mean total levodopa equivalents decreased from 728.86 mg/day to 611.12 mg/day after the surgery ($p > 0.05$, 95% CI). However, There was no need to increase the levodopa dosage to maintain improvement after pallidotomy in those patients who had previously required increased dosages due to loss of effectiveness of the drug. Also, patients were able to tolerate larger doses because of reduced parkinsonian symptoms. A set of rating scales (Hoehn and Yahr and Unified Parkinson's Disease Rating Scale), and timed tests improved significantly for whom medical therapy has failed ($p < 0.001$, 95% CI). In conclusion, pallidotomy provides a stable levodopa response and is a symptomatic treatment of patients with advanced Parkinson's disease.

[PF1-3] [10/19/2000 (Thr) 10:00 - 11:00 / [Hall B]]

Pneumonia and wound infection following renal transplantation

Cho EJ[o1], Oh JM[1], Yoo JH[2], Han DJ[3]

[1] Graduate School of Clinical Pharmacy, Sookmyung Women's University, [2]Department of Internal Medicine, Asan Medical Center, Ulsan Medical School [3]General Surgery, Asan Medical Center, Ulsan Medical School

Renal transplantation has been established as the best treatment for patients with end stage renal disease. However infection due to use of immunosuppressive agents is the one of the biggest problems of transplantation. The patterns of infection depend on etiologies and many factors. The purpose of this study was to review pneumonia and wound infection episodes along with CNS and central line infection occurring within 1 year of kidney transplantation. The patients who had received renal transplantation in year 1998 were compared to patients of 1993-94 to see if the time difference of 4-5 years have effects on the infection patterns. Among the 122 patients who had received kidney transplantation in years 93-94, there were 11 episodes of pneumonia in 10 patients (8.2%) and 14 episodes wound infection in 12 patients (9.8%). Among the 113 patients who had received kidney transplantation in year 98, there were 13 episodes of pneumonia in 10 patients (8.8%) and 10 episodes of wound infection in 9 patients (8.0%). There were no episodes of CNS and central line infection in both 1993-94 and 98. In 93-94 most cases of pneumonia (8 out of 11) and wound infection (10 out of 14) occurred within one month of renal transplantation, and in 98 also most cases of pneumonia (6 out of 13) and wound infection (10 out of 10) occurred within one month of renal transplantation. The main etiologies of pneumonia were Klebsiella pneumoniae (28.6% in 93-94, and 19% in 98) Pseudonomas aeruginosa (21.4%, 0%), Staphylococcus epidermidis (7.1%, 14.3%), and Staphylococcus aureus (7.1%, 9.5%). The main etiologies of wound infection were Staphylococcus epidermidis (47.1% in 93-94, 5.6% in 98), Pseudonomas aeruginosa (17.6%, 16.7%), and Staphylococcus aureus (5.9%, 16.7%). There were no significant differences in infection rates of pneumonia and wound infection between years of 93-94 and 98 (p=0.858, 0.615). Also, no significant differences in infection rates of pneumonia and wound infection between 2 groups were found in patients with rejection and without rejection, patients who used OKT3 to treat rejection and who did not, patients with cadaveric renal transplantation and with living renal transplantation. In 93-94 and 98, the infection rates of pneumonia were higher in patients with rejection episodes than without rejection episodes (20% vs 5.2%, 25% vs 6.2% respectively). In 93-94, the infection rates of wound infection were significantly higher (p=0.024) in patients who used OKT3 to treat rejection than who did not (37.5% vs 0%). In 98, only one person used OKT3 to treat rejection. In 98, the infection rates were higher in patients with cadaveric renal transplantation (10.8%) than with living renal transplantation (25.6%), however there were no differences in 93-94.

[PF1-4] [10/19/2000 (Thr) 10:00 - 11:00 / [Hall B]]

The Effects of Lamivudine Therapy in Chronic Hepatitis B Patients

Kyun JO[o1], Oh JM[1], Cho SW[2]

[1]Graduate School of Clinical Pharmacy, Sookmyung Women's University, [2]Internal Medicine, Ajoo University Medical Center

Lamivudine, an oral nucleoside analogue, effectively inhibits hepatitis B virus replication and reduces hepatic necroinflammation in patients with chronic hepatitis B. Although lamivudine has shown a promise in patients with chronic hepatitis B, long-term data on Korean patients with hepatitis B are lacking. The purpose of this study is to evaluate the effects and safety of 52-week lamivudine therapy in Korean patients with chronic hepatitis B. Twenty-nine patients who had received 100mg of oral lamivudine daily for 52 weeks were evaluated, retrospectively.

The mean age of 29 patients in the study group was 37.7±8.9 years (range 54-57) and of 29 patients 27 patients (93%) were male. Pretreatment HBV PCR and HbsAg were positive in all 29 patients, and HbeAg were positive in 25 patients (86%).