ORIGINAL ARTICLE

Loperamide for Acute Diarrhoea in Infancy (A Clinical Experience)

by

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Abstract

A total of 94 infants aged below 3 years with acute maetry diarrhoea underwent treatment with loperamide (Normotil, Pharos Indonesia). They were arbitarily divided into group I (46 patients) receiving loperamide and group II (48 patients) receiving loperamide & antibiotics in addition to oral glucose — electrolyte solution.

Stools became normal within 3 days in 69,6% of patients in group I and 86% in group II, and within 7 days in 87% of patients in group I and 95,4% in group II.

In 5 patients, diarrhoea worsened within 24 hours, necessitating the administration of i.v.f.d. There were no side-effects encountered during the treatment of loperamide.

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Introduction

Loperamide, a butyramide derivative, is an orally active agent for the use in symptomatic control of acute non-specific diarrhoea and chronic diarrhoea (Galambos et al., 1976; Cornett et al., 1977; Connel et al.. 1980; Vanapruks et al., 1979).

Although it has some structural similarities to diphenoxylate, it differs both qualitatively and quantitatively froni diphenoxylate in its pharmacological actions. Loperamide has been shown to reduce gastrointestinal motility in animals and men. In isolated organ studies, loperamide caused a dose related reduction of pressure induced activity of longitudinal and circular muscles in the ileum and inhibited the spasmogenic effects electrical stimulation, nicotine and prostaglandins (Connel et al., 1980).

Various studies have shown that loperamide is effective and safe in the symptomatic treatment of acute diarrhoea (Cornett et al., 1977; Connel et al., 1980; Vanapruks et al., 1979).

The present study tries to determine the effect of loperamide (Normotil Pharos available in Indonesia) on acute diarrhoeal disorders in infancy when given solely or in combination with antibiotics.

Material and methods

Ninety-four infants, aged between 3 months and 3 years presenting with acute watery diarrhoea of less than 3 days, were included in the study. They were arbitrarily divided into 2 groups :

Group I : 46 patients received sollely loperamide (Normotil) in addition to oral glucose-electrolyte solution.

Group II : 48 patients were given loperamide in combination with antibiotics in addition to oral fluid administration.

The dose of loperamide (Normotil) given was 0.04 mg/kg body weight divided into 3 doses (Vanapruks et al., 1979). The duration of diarrhoea after initiation of treatment and possible side-effects, occurring during the study, were recorded.

Failure in the treatment was considered if within 24 hours diarrhoea worsened and necessitated administration of i.v.f.d.

Results

TABLE 1 : *distribution.*

	3 — 6 mo.	7 — 12 mo.	> 12 mo.	Total
Loperamide	18	16	12	46
Loperamide + Antibiotic	12	17	19	48
T o t a l	30	33	31	94

In each group, the age distribution was comparable ($0.30 > p.> 0.20$)

TABLE 2 : *Duration of diarrhoea : formation of formed stools.*

	< 3 days	> 3 days	T o t a l
Loperamide	32 (69.6%)	14	46
Loperamide + Antibiot	37 (86. %)	6	43

$x^2 = 3.52$ $0.10 > p > 0.05$

In 5 patients, the diarrhoea worse within 24 hours after initiation of therapy, necessitating administration i.v.f.d.

TABLE 3 : *Duration of diarrhoea : formation of formed stools.*

	< 7 days	⩾ 7 days	T o t a l
Loperamide	40 (87. %)	6	46
Loperamide + Antibiot	41 (95.4%)	2	43

$x^2 = 2.10$ $0.20 > p > 0.10$

In the loperamide group in 69.6% of the patients, the stools became normal within 3 days and 87% within 7 days, whereas in the group of loperamide + antibiotics the diarrhoea abated in 86% within 3 days and in 95.4% within 7 days, (Table 3).

The difference between both groups was statistically not significant.

Discussion

Loperamide was more potent than diphenoxylate, morphine or codeine in slowing gastrointestinal progression of a charcoal bolus in mile, and in reducing castor-oil induced diarrhoea in cats and mice. In man, loperamide has a significant constipating effect in healthy volunteers, with a similar onset but lower duration of activity than diphenoxylate (Connell et al., 1980).

In an intensive study involving 340 patients suffering from acute diarrhoea, Cornett et al. (1977) proved that loperamide was more potent in controlling the diarrhoea. It was under control in 81% of the cases in the loperomidegroup.

In the present study improvement of diarrhoea was noted within 24 hours in 94.4% of the cases, whereas 5 patients showed worsening of the diarrhoea, necessitating administration of i.v.f.d.

Normal and formed stools were subsequently observed within 3 days in 77.5%, and within 7 days in 91% of all cases. There were no differences in the effect of loperamide given either solely or in combination with antibiotics ($p > 0.05$).

In a study conducted by Vanapruks et al. in 1980 comparing
diarrhoea in patients receiving either antibiotics or no medication except fluid therapy, they found that diarrhoea stopped satisfactorily in all groups but the improvement was significantly faster in the loperamide group than the other two groups. They suggested that loperamide is effective in both infectious and non-infectious, shortening the fluid, electrolytes and nutritients loss.

In acute diarrhoea with fever and dysentery (feces, pus blood in stools and tenesmus), where an invasive phatogen is suspected, drugs that decrease gut motility may delay clearance of infecting organisms from the bowel and prolong the course of the illness.

Antimotility drugs should also be avoided in cases of antibiotic — induced diarhoea or in antibiotic — associated colities (Connel et al., 1980).

No side-effects of loperamide was noted during the present study. Loperamide has proved to be safe in the symptomatic treatment of both acute and chronic diarrhoea in all age groups (Cornett et al., 1977; Connel et al., 1980; Vanapruks et al., 1979; Amery et al., 1975).

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