

Effect of BK - F Dialyzers with PMMA Membranes

on

Pain, Itching and Anemia

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1. Introduction

It has been suggested that pathogenic substances which cause complications of long-term dialysis patients may possibly exist in the area of large molecular weight substances (molecular weight 500,000 ~ 1,000,000).

However, removal of large molecular weight substances has not been performed positively to avoid the loss of albumin in the conventional dialysis treatments. Therefore, we used BK-F series dialyzers which can remove the substances which have larger molecular weight than that of albumin. We studied the effects of BK-F on improving pain, itching and anemia.

2. Patients and Methods

Using Toray BK-F dialyzers on 12 dialysis patients who have pain, itching and/or anemia simultaneously, we observed the change in the levels of BUN, β 2-MG, Hct and TP for the period from 4 months before starting to use the said dialyzers, up to the 6th month after starting to use them.

The dialyzers used before changing to BK-F dialyzers were

as follows;

CLE 15N	1 patient	(cellulose, Terumo)
CLSS 15N	2 patients	(cellulose, Terumo)
AMUP	4 patients	(cellulose, Asahi Medical)
CLSU 20N	2 patients	(cellulose, Terumo)
FB 130E	2 patients	(CTA, Nipro)
BK 1.6U	1 patient	(PMA, Toray)

Subjective symptoms about pain and itching were checked every month according to the following 5 scores;

4: too painful (and/or itchy) to bear

3: very painful (and/or itchy)

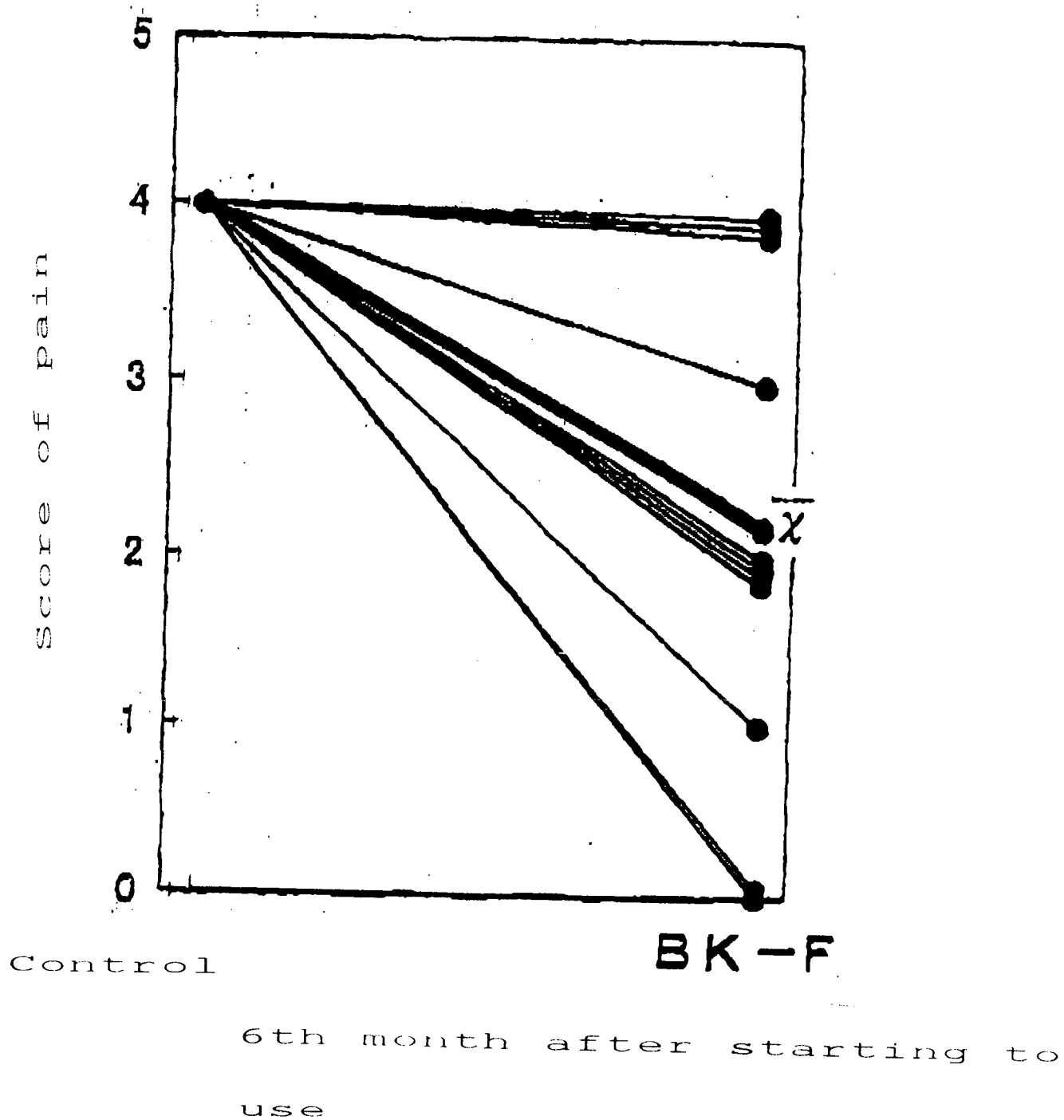
2: painful (and/or itchy) but bearable

1: a little painful (and/or itchy)

0: almost no pain (or itching)

In addition, concerning these 12 patients with their Hct levels at 25% or below who exhibit anemic tendencies, we observed the changes in the Hct levels and the administered amounts of EPO.

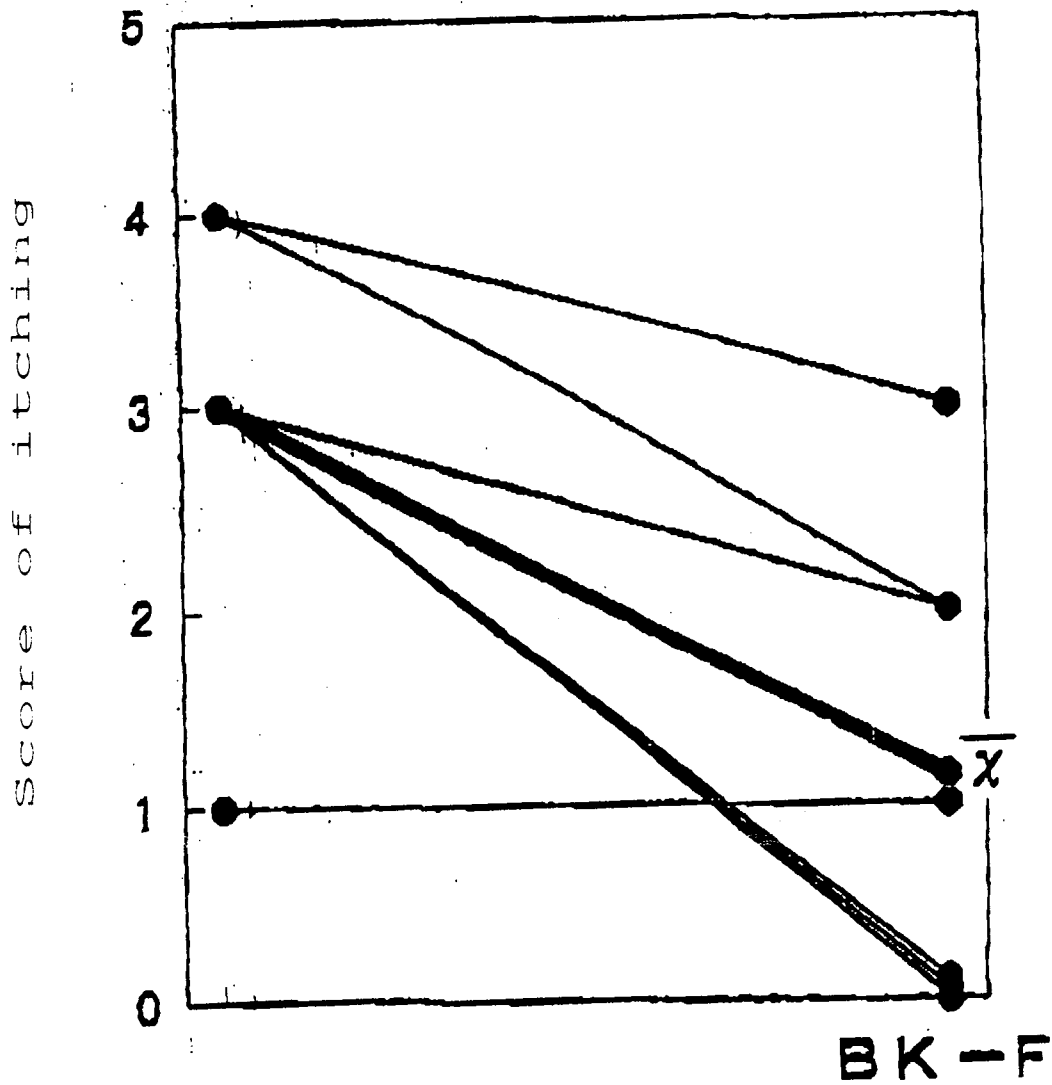
3. Change in pain



Improvement was observed in 8 out of 12 patients (67%).

Moreover, for 2 out of the 8 patients responded, their pains have disappeared completely.

4. Change in itching

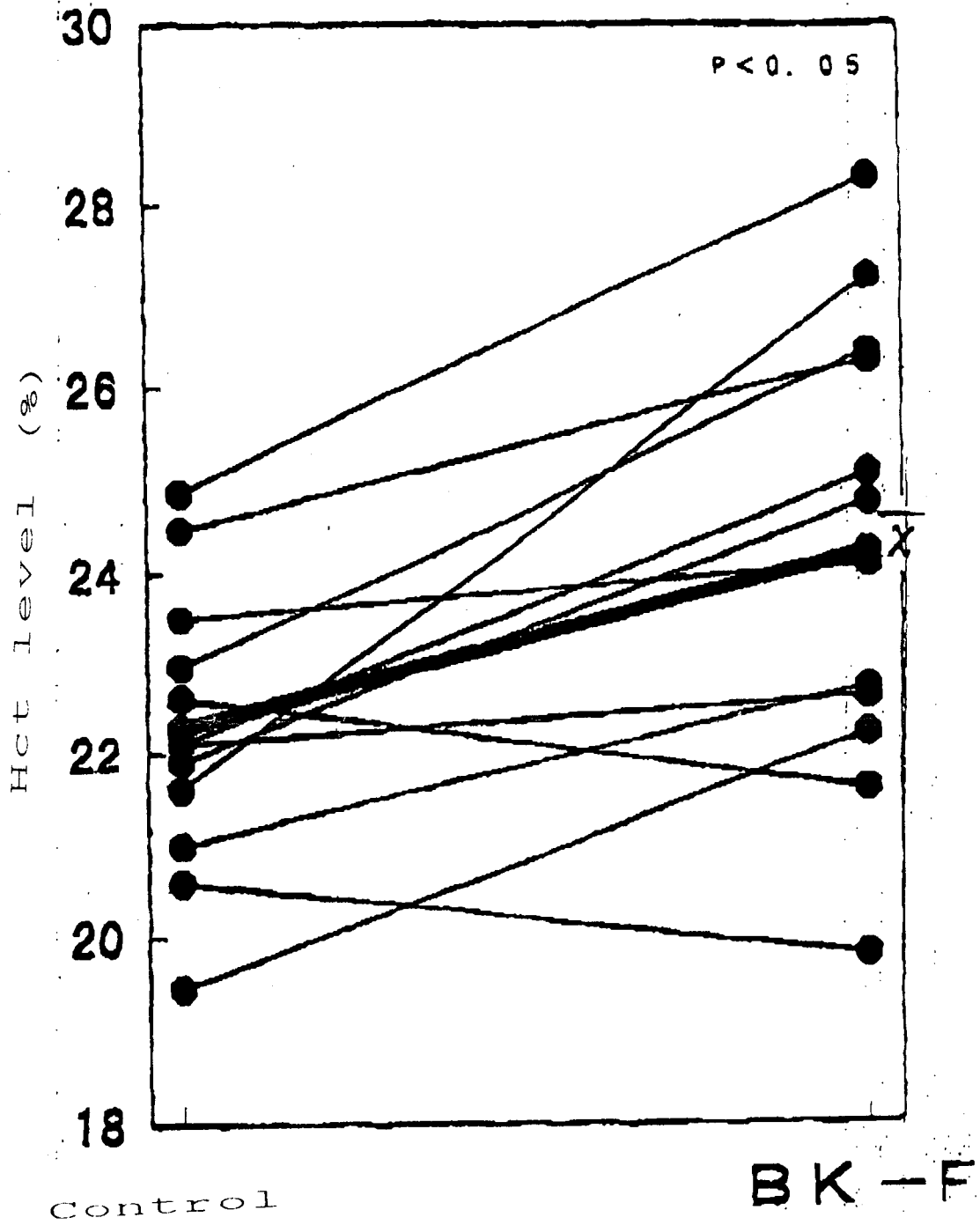


Control —
6th month after starting to
use

Improvement was observed in 6 out of 12 patients (86%).

Moreover, for 3 out of the 6 patients responded, their
itch has disappeared completely.

5. Increase in the Hct levels of the patients whose Hct levels are at 25% or below



By using BK-F dialyzers, significant rise was observed in the Hct level of 12 patients whose Hct levels are at 25%

6. Conclusion

Our observations demonstrate that BK-F dialyzers with large-pore membranes are sufficiently effective against pain, itching and anemia without causing total protein loss.