Fibrates: An Adjuvant Therapy for cholestasis in Paediatric Age Group

Tawhida Y Abdel Gaffar [1], Behairy A Bahairy [2], Hatem Konsowa [2], Alif Allam [2], Mary Naguib [2], Huda Atta [1]

[1]Yassin Abdel Ghaffar liver foundation, Cairo, Egypt, [2]The National Liver Institute, Menoufia University, Egypt

BACKGROUND

Bile formation is a delicate process. This is illustrated by inherited liver diseases caused by mutations affecting hepatocanalicular transporters. Effective treatment of these defects is a clinical and scientific challenge.

Fibrates were first noted to reduce hepatic alkaline phosphatase (ALP)isoenzyme levels during their development as cholesterol-lowering agents in the1970s, due to its effect on peroxisome proliferator activated receptor (PPARa).

Aim of the Study: Assess the effect of fenofibrates on pruritus and biochemical laboratory values in children with none-obstructive cholestatic liver diseases.

METHODS

A prospective pilot study. Included paediatric patients with none-obstructive cholestatic liver diseases, recruited from outpatient clinics.

Patients were divided into 2 groups:

- Therapy group (T-group):Received UDCA, and Fenofibrate 10mg/kg, once per day. This group included 23patients.
- Control group (C-group):Received UDCA and included 30 patients. Informed consents were obtained ,study was registered as a clinical trial.

Monitoring:

History including pruritus grading score(PGS), examination and laboratory investigations, with every visit .And total serum bile acids, lipid profile and abdominal ultrasound done with zero- and 4-months' visits.

RESULTS

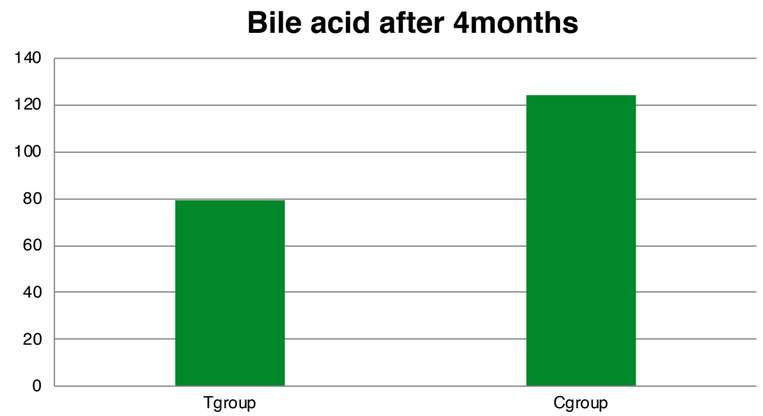
Table1 : Comaprison of Main outcome and side effects in both groups.

Outcome	1 month		P_1 value	4 months		P_2 value
	T-gp (n=23)	C-gp (n=30)		T-gp (n=18)	C-gp (n=26)	
Mean PGS (-/19)	6.5±4.5	8.2±5.8	0.36	3.2± 3	7.0±5.4	0.07
Decreased PGS < 1.5 base line	5	4	0.02*	10	9	0.03*
Pruritus mark (%)	10 (45%)	12 (40%)	0.56	4 (22%)	7 (26.9%)	0.35
ALT (IU/L)	179±178	159.1±119.9	0.3	104.2±87.5	131.5±86.7	0.767
Decreased ALT <1.5 x base line	2	5	0.39	4	0	0.02*
AST (IU/L)	250.6±216	208.1 ±198.5	0.41	125 ± 57.7	187.4 ±105	0.047*
GGT (IU/L)	153 ± 171	303.6±377.8	0.16	133.8 ± 117	326±338.5	0.026*
BA (umol/L)	-	-	NA	79.3±24.8	124 ± 90.5	0.001*
Main side effects						
Increased PGS >1.5 x baseline	2 (8%)	3 (10%)	0.8	0(0%)	3(11%)	0.275
Increased ALT> 1.5x baseline	3 (13%)	3 (10%)	0.73	3 (16%)	2 (7.6%)	0.35
Increased T bili >1.5 x baseline	4 (16%)	0(0%)	0.08	1 (5%)	1 (4%)	1

There were no statistically significant differences in the baseline demographic and biochemical data between the two groups (P> 0.05).

After one month, the PGS showed statistically significant decrease by< 1.5 x base line in the T-group compared to the C-group (P <0.02) .

After four months, there were statistically significant decrease in PGS and ALT levels < 1.5 x baseline levels, AST ,GGT and bile acid levels in favour of the T-group (P< 0.02, 0.047,0.026 and 0.001respectively).



CONCLUSION

The use of FF in combination with UDCA provided satisfactory clinical outcomes, which could be a promising adjuvant therapy. However, studies for longer duration with larger sample size is still needed.