CHAPTER 3

RESULTS

3.1 Table1: Anthropometric Data

The study group and control group were comparable in terms of age,

gender and ethnicity. All the study subjects were already on treatment for

their medical conditions.

Although 45% of the control group were found to have dyslipidaemia this

was mild in all cases (TC < 7.5 mmol/l), and none were on lipid modifying

treatment.

There was a significant difference between the two groups in the

waist circumference and body mass index ($p < 0.0001$).

	Study Group (n=20)	**Control Group (n=20)**	**P value**
Gender (M/F)	8/12	8/12	NS
Age (years)	48±15.3	48±16.2	NS
WC (cm)	111±14.9	82.±8.8	<0.0001
BMI (kg/m²)	35.1±8.2	23.3±2.1	<0.0001
Hypertension	12/20 (60%)	None	<0.01
Dyslipidaemia	16/20 (80%)	9/20 (45%)	<0.01
Diabetes/IFG	14/20 (70%)	None	<0.01
Ethnicity:			
Black	2/20 (10%)	2/20 (10%)	NS
White	12/20 (60%)	12/20 (60%)	NS
Indian	4/20 (20%)	4/20 (20%)	NS
Chinese	1/20 (5%)	1/20 (5%)	NS
Coloured	1/20 (5%)	1/20 (5%)	NS

Values are mean ± SD. NS – Not Significant

3.2 Table 2: Fasting Lipid Profiles

HDL levels were significantly lower and NEFA concentrations significantly higher in the study group versus the control group. Total cholesterol and triglyceride levels were also higher in the study group but this was not significant.

	Study Group (n=20)	Control Group (n=20)	P value
Total Cholesterol (mmol/L)	5.71±3.25	5.27±1.10	NS
Triglycerides (mmol/L)	7.16±18.50	1.11±0.58	NS
HDL C (mmol/L)	1.23±0.36	1.58±0.42	<0.01
NEFA (µmol/L)	863.5±0.46	432.9±0.16	<0.001

Values are mean ± SD. NS – Not Significant

3.3 Table 3: Serum Aminotransferases

The differences between the study and control groups were significant with the study groups' ALT levels being 57.4±44.79 U/L versus 17.4 ±4.60 U/L in the control group (95% CI 18.02 - 61.42, P < 0.01) and the study groups'AST levels being 52.5 ±36.21 U/L versus 23.4 ±4.86 U/L in the

control group (95% CI 11.99 – 46.20, P < 0.01).

	Study Group (n=19)	Control Group (n=20)	P value
ALT (U/L)	57.4±44.79	17.7±4.60	<0.001
AST (U/L)	52.5±36.21	23.4±4.86	<0.01
AST:ALT ratio	1.01	1.37	<0.01

Values are mean ± SD

3.4 Table 4: Ultrasound Results

Seventy five percent had features of fatty liver disease on sonar.

Five of the study subjects had liver biopsies confirming the diagnosis of

NAFLD. These were done prior to inclusion into the study.

	Study Group (n=20)	Control Group (n=20)
Yes	15(75%)	ND
No	5(25%)	ND

ND – Not Done

3.5 Table 5: Alcohol Measurements

Of the twenty patients with NAFLD screened for any alcohol present,

60% tested positive. Fifty five percent tested positive for methanol, while

35% were positive for ethanol. Of note, no alcohol was detected in the

control subjects.

Alcohol	Study Group (n=20)	Control Group (n=20)	P value
Ethanol Present	7 (35%)	0 (0%)	=0.0084*
Methanol present	11(55%)	0 (0%)	=0.0000*
Ethanol and Methanol present	6 (30%)	0 (0%)	=0.0202*
Any alcohol present	12 (60%)	0 (0%)	=0.0000*

*2 tailed Fisher exact test.

3.6 Table 6: Study Subjects with detectable Alcohol concentration levels

The methanol concentration was highest in the blood and significantly higher when compared to that in the urine and breath.

Case No.	Ethanol (mg %)			Methanol (mg %)		
	Blood	Urine	Breath	Blood	Urine	Breath
3	9	ND	ND	2	1.6	2.4
4	2	ND	ND	1.8	ND	ND
6	ND	ND	ND	50	ND	ND
7	8	44.6	ND	29	32.3	ND
8	8	ND	ND	2	ND	8
9	10	ND	ND	ND	ND	ND
10	10	ND	ND	21	ND	8
11	ND	ND	ND	7.1	ND	ND
12	ND	ND	ND	3	ND	ND
13	3	ND	ND	9	38	1
14	ND	ND	ND	7	ND	ND
15	ND	ND	ND	46	9.7	5.3
Mean ± SD	7.14± 3.28	3.71± 12.87	0	16.17± 17.95	6.8± 13.58	2.05± 3.19

ND - Not Detected.

3.7 Table 7: Adipocytokines

There was a significant difference in the adiponectin and leptin concentrations between the two groups, the adiponectin levels being significantly lower and the leptin levels being significantly higher in the study group than in the controls.

	Study Group (n=20)	Control Group (n=20)	P value
Adiponectin (ng/L)	6875 (1090-29600)	15475 (4750-95200)	<0.01
Leptin (ng/L)	13.56 (0-76.1)	3.05 (0-35.3)	<0.05

Values are the median with the minimum-maximum range.

3.8 Table 8: Inflammatory Markers

The hs-CRP levels were significantly higher in the study group as compared to the control.

	Study Group (n=20)	Control Group (n=20)	P value
hs-CRP (mg/L)	6.46 (0.36-141.8)	0.86 (0.17-16)	<0.01

Values are the median with minimum-maximum range.