(WHR) and fasting triglyceridemia status on postabsorptive lipid metabolism.

Twenty-three obese women and six lean women (control: C), aged 24-57 years were enrolled. Among obese women with a WHR > 0.81, nine were normotriglyceridemic (group A) and seven were hypertriglyceridemic (group B), while seven were normotriglyceridemic and obese with a WHR < 0.81 (group D). All were given a high-fat test meal providing 40 g of triglycerides like sunflower margarine. Large chylomicrons remnants (CMR) and triglyceride-rich lipoproteins (TRLs, VLDL + small CMR) were separated by ultracentrifugation. Apo B 100-containing TRL particles were separated from apo B48-containing TRLs by affinity chromatography. Triglycerides (TG) were measured by enzymatic procedures. The ANOVA test was used to evaluate statistical differences ($P < 0.05$) between groups.

The mean insulin 0–2 h area under the curve (AUC) (mUI.h/L) was higher ($P < 0.05$) in subjects of group B (163.1 ± 39.6) than in others studied (36.7 ± 17.2; 79.6 ± 26.6 and 51.6 ± 19.12, in group C, A and D, respectively). Mean serum and CMR-TG AUCs (mmol.h/L) of both lean (1.35 ± 0.31 and 1.09 ± 0.32, respectively) and group D (1.02 ± 0.16 and 0.92 ± 0.14, respectively) subjects were comparable and lower ($P < 0.05$) than the one in group A (3.17 ± 0.60 and 2.28 ± 0.43, respectively) and B (4.13 ± 0.68 and 3.04 ± 0.89) women. The relative proportion (%) of TG in apo B48-TRL particles was significantly higher ($P < 0.05$) at fasting and 7 h postprandially in group A (40.4 ± 2.2 and 43.6 ± 2.4, respectively) and B (32.8 ± 2.7 and 40.0 ± 4.2, respectively) subjects.

These results show that in abdominal obesity, other parameters than fasting triglyceridemia contribute to an exacerbated postprandial lipemia. In particular, accumulation of apoB48-TRL particles indicates a delayed clearance possibly related to insulin resistance.

Dual energy X-ray absorptiometry (DEXA) and anthropometric measurements combination for visceral fat evaluation in obese women. E Bertin [1], C Marcus [2], JC Ruiz [3], V Durlach [1], M Leutenegger [1] *([1] Clinique médicale B; [2] Service de radiologie, CHU Robert-Debré, 51092 Reims cedex; [3] Service de gynécologie, Hôpital Boucicaut, 75015 Paris, France).*

Estimation of abdominal fat distribution associated with intra-abdominal visceral fat excess by simple anthropometric parameters (waist measurement: WM, sagittal diameter: SD, waist/hip ratio: W/H) is diversely considered especially in presence of obesity. DEXA is an accurate, non invasive and relatively accessible equipment for total and regional body composition measurements. Thus, this study aims to determine the potential contribution of this technique to quantification of visceral fat (VF).

We defined body composition of 58 obese women (age: 45.7 ± 13.3; body mass index: 37.1 ± 6.2; W/H: 1.0 ± 0.1, means ± SD) by DEXA (Hologic QDR 2000; V5.67). Above anthropometric measurements were collected at the same time by a unique investigator. Multiple data on regional body composition calculated according to segments of interest were combined between themselves or with global data and/or anthropometric measurements. Different combinations were selected when correlated to the latters and the Pearson correlation coefficient of a simple linear regression was afterwards calculated comparatively to VF and VF/subcutaneous fat (SCF) obtained by tomodensitometry measurement at L4-L5 level in 24 of these women.

Two ratios SD / fat percentage in thigh area (A) and WM / fat percentage of half

abdominal height (B) are greatly correlated to W/H ($r = 0.7$ and 0.55, $P < 0.001$) which is the anthropometric parameter best correlated to VF ($r = 0.71$, $P < 0.0001$) and VF/SCF ($r = 0.57$, $P < 0.004$). LMI (lean mass index: lean mass without bone/height^2) is well correlated to W/H, VF, VF/SCF (respectives $r = 0.56, 0.73, 0.67$, $P < 0.001$). However, newly suggested combined ratios A and B appear more reliable for estimation of VF ($r = 0.77$, $P < 0.0001$ for A and B) and VF/SCF (r are equivalent).

In conclusion, this preliminary study brings out the interest of the technique of DEXA for intra-abdominal visceral fat estimation in obese women.

Study of cardiovascular vagosympathetic control by spectral analysis of heart rate and blood pressure in obese patients. J Sibony-Prat, J Pariès, M Chabert, JR Attali, P Valensi *(Laboratory of Nutrition and Metabolic diseases, Jean Verdier Hospital, university Paris-Nord, av du 14 juillet, 93140 Bondy, France).*

Several clinical and experimental studies suggest an alteration of parasympathetic (PS) and sympathetic (S) control in obesity. We have recently shown that more than 40% of non diabetic obese patients have an alteration of heart rate (HR) variations from PS origin.

The aim was here to investigate PS and S cardiovascular control by using spectral analysis of HR and blood pressure (BP) variations. Sixty-two non diabetic obese patients were compared with 38 healthy controls. Sex ratio was similar in the two groups. Spectral analysis has been performed with the Anapres system. Two characteristic peaks were individualised: one of high frequency (0.20–0.25 Hz) for HR variations during a controlled breathing period which is an indicator for PS activity, the other of low frequency (around 0.10 Hz) for systolic BP variations in the standing position which is mainly an indicator for S activity. In controls the value of the high frequency peak ($r = -0.556$, $P < 0.0001$) but not the value of the low frequency peak ($r = -0.002$) correlated negatively with age. In the obese patients both the high and low frequency peaks correlated negatively with age ($r = -0.249$, $P = 0.05$ and $r = -0.269$, $P = 0.036$ respectively) and did not correlate with BMI. In the obese patients, the high frequency peak was significantly lower than in the control group (mean ± SD = 4.80 ± 3.37 vs 8.38 ± 4.14, $P < 0.0001$). In the 25 obese patients over 40 years old, the low frequency peak was also significantly lower than in the controls (10.00 ± 3.10 vs 11.95 ± 4.25, $P = 0.05$).

This study sustains the need to take age into account when interpreting cardiovascular parameters which depend on vagosympathetic control. It suggests that in obese patients vagal activity is reduced and in those over 40 years sympathetic activity is also reduced.

Characterization of HDL apolipoproteins in the goose susceptible to liver steatosis. D Hermier [1], N Sellier [2], D Rousselot-Pailley [2], P Forgez [3] *([1] Inra, 37380 Nouzilly; [2] Inra, Artiguères, 40280 Benquet; [3] Inserm, Hôpital Saint-Antoine, 75012 Paris, France).*

In Palmipedes, fatty liver is an acquired hepatic steatosis induced by overfeeding of specific susceptible breeds. In the Landes goose, hepatic steatosis is accompanied by an increase in plasma HDL from 5 g/L in control to over 10 g/L [Hermier et al (1991), *Biochim Biophys Acta* 26, 331-339]. Goose HDL is the major plasma reservoir for apolipoprotein A-I (apoA-I) and apolipoprotein Cslike (apoCs-like). These proteins were characterized in the goose and compared to the corresponding apolipoproteins in mammals. HDL were separated from plasma by