

Patients with impaired fasting glucose exhibit a more frequent non-dipper or riser blood pressure pattern compared with normoglycemic patients

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Objective

- To study blood pressure circadian pattern in patients with impaired fasting glucose (IFG) evaluated with ambulatory blood pressure monitoring (ABPM).

Methods

- Cross-sectional study
- Patients from the Spanish ABPM Registry.
- Normoglycemia was defined as glucose <100 mg/dl and IFG as glucose 100-125 mg/dl.
- All patients underwent 24-h ABPM with a Spacelabs ambulatory blood pressure system.
- ABPM was performed according to standardized conditions and conventional threshold for ABP measurements.
- Statistical analysis was performed with SPSS v 15.0 for Windows.

Baseline characteristics

	n- 24708		p
	Normoglycemia (n-16587, 67.2%)	IFG (n-8121, 32.8%)	
Age (years)	56.0 ± 14.6	60.2 ± 12.6	<0.001
Male (%)	49.5	57.5	<0.001
BMI (kg/m ²)	28.2 ± 4.4	29.6 ± 4.3	<0.001
Waist circumference (cm)			
- Male	99.2 ± 10.3	102.4 ± 10.1	<0.001
- Women	92.8 ± 12.1	97.2 ± 11.8	<0.001
Office BP (mmHg)			
- Systolic	147.3 ± 18.7	150.4 ± 19.2	<0.001
- Diastolic	87.8 ± 11.1	87.7 ± 12.1	ns

ABPM Values

ABPM (mmHg)	Normoglycemia	IFG	p
24h			
- SBP	127.9 ± 13.2	128.9 ± 13.7	<0.001
- DBP	77.4 ± 10.0	76.4 ± 10.1	<0.001
Daytime			
- SBP	131.3 ± 13.3	132.2 ± 14.1	<0.001
- DBP	80.6 ± 10.5	79.3 ± 10.6	<0.001
Nighttime			
- SBP	118.2 ± 14.9	119.8 ± 15.6	<0.001
- DBP	68.7 ± 10.1	68.3 ± 10.2	<0.001
BP 24h			
<130/80 (%)	46.6	45.8	ns
Daytime BP			
<135/85 (%)	52.5	52.3	ns
Nighttime BP			
<120/70 (%)	44.8	43.2	0.022

Dipper and non-dipper blood pressure 24-hour patterns

%	NG	IFG	p
Dipper	44.1	41.3	<0.001
Extreme Dipper	7.8	7.4	ns
Non-dipper	37.6	39.0	<0.001
Riser	10.6	12.3	<0.001
Non-dipper + Riser	48.2	51.3	<0.001

Conclusions

- Patients with IFG are older, more frequently men, and are more obese. These patients show higher 24h, daytime and nighttime SBP, but lower 24h, daytime and nighttime DBP.
- IFG patients have a higher percentage of non-dipper + riser pattern in the circadian blood pressure evaluation.