

**Introduction :**

Obesity and especially abdominal obesity is therefore often associated with atherogenic dyslipidemia which lead to cardiovascular complications. The aim of our study was to analyze the distribution of cholesterol and triglycerids and to determine the prevalence of dyslipidemia in the Algerian adult population and their variation depending on the presence or absence of obesity .

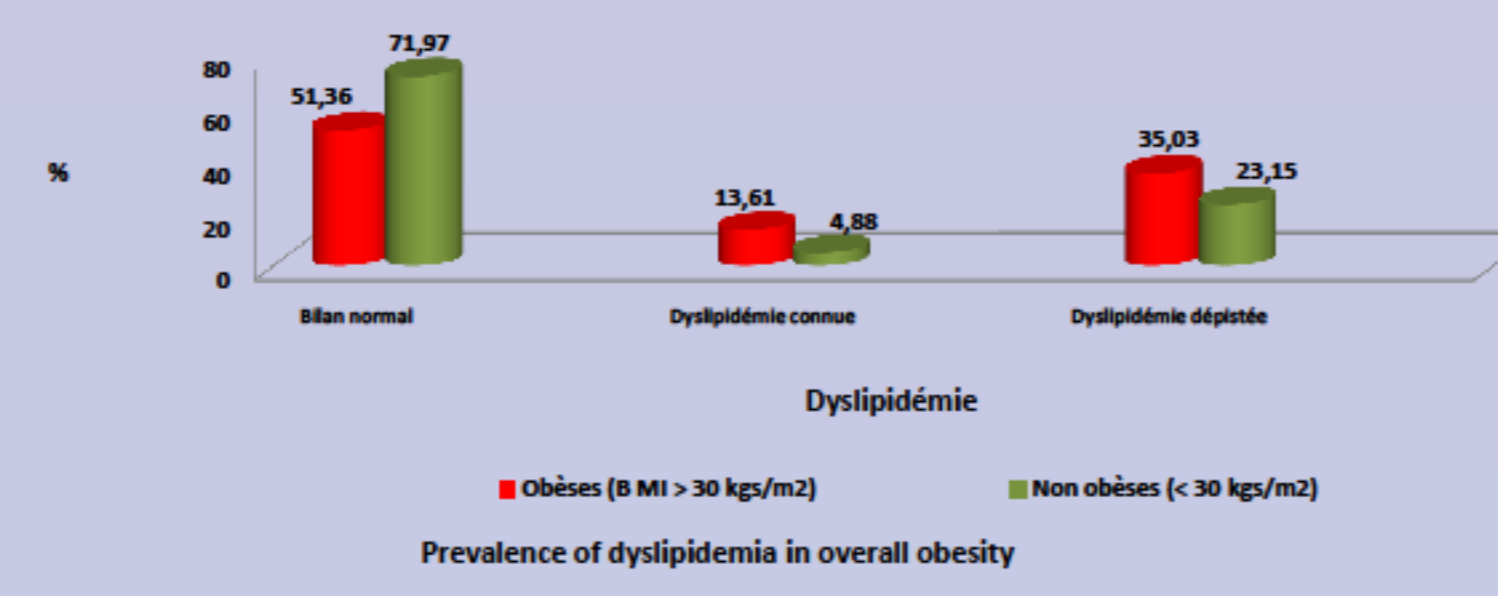
**Methodology :**

Capillary samples using a validated lipids player (Accutrend GCT) were performed in 2210 individuals randomly selected from the general population. High cholesterol is defined by a fasting cholesterol (fasting 12 hours) > 2g / l. The hypertriglyceridemia is defined by a triglyceride levels after 12 hours of fasting > 1.5g / l, or a person treated to dyslipidemia.

**Results :**

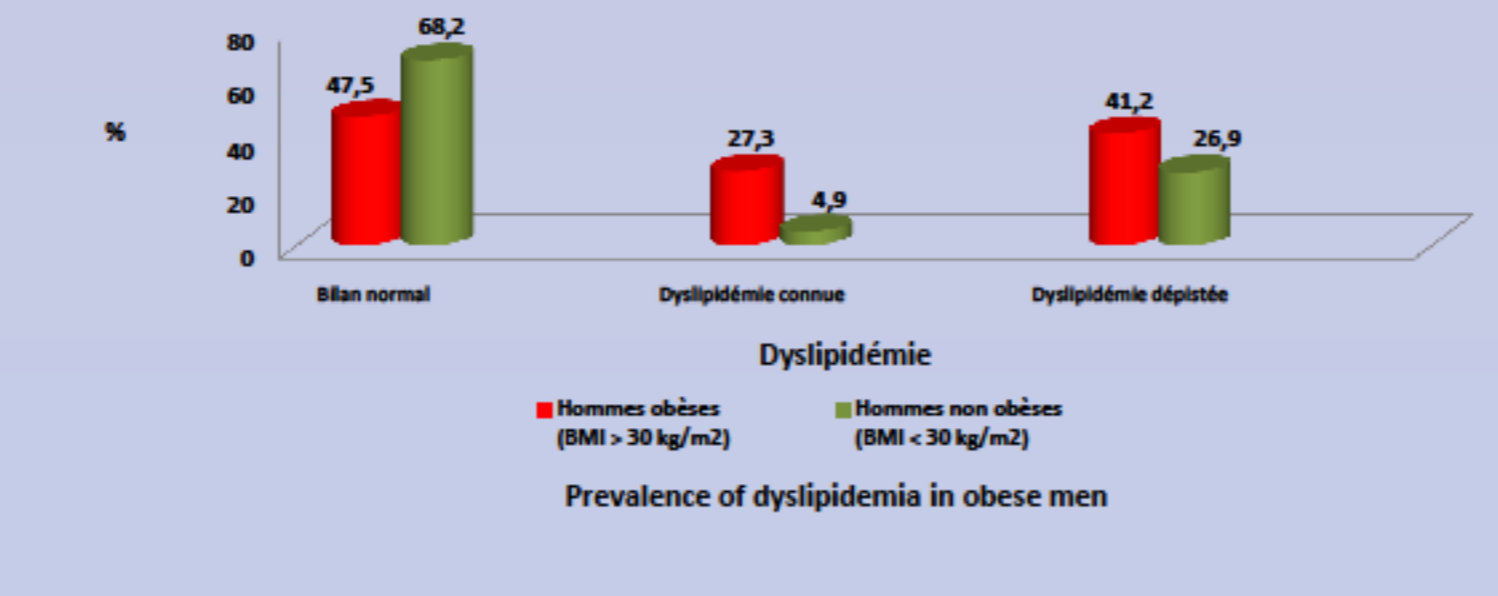
The mean fasting total cholesterol in our sample was 1.70 g / l (1 to 2.4).  
 -The Average fasting triglycerids is 1.15 g / l (0.39 to 2.69).  
 -A known history of dyslipidemia was rated at 7.06% of subjects.  
 -A Dyslipidemia was detected in 26.11% of the individuals in our population

Hommes et femmes		BMI < 30 kg/m <sup>2</sup>	BMI > 30 kg/m <sup>2</sup>	Total	P
Bilan normal	Effectif (%)	1194 (71,97)	283 (51,36)	1477 (66,63)	
Dyslipidémie connue	Effectif (%)	81 (4,88)	75 (13,61)	156 (7,06)	< 0,001
Dyslipidémie décelée	Effectif (%)	384 (23,15)	193 (35,03)	577 (26,11)	< 0,001
Total	Effectif (%)	1659 (100)	551 (100)	2210 (100)	



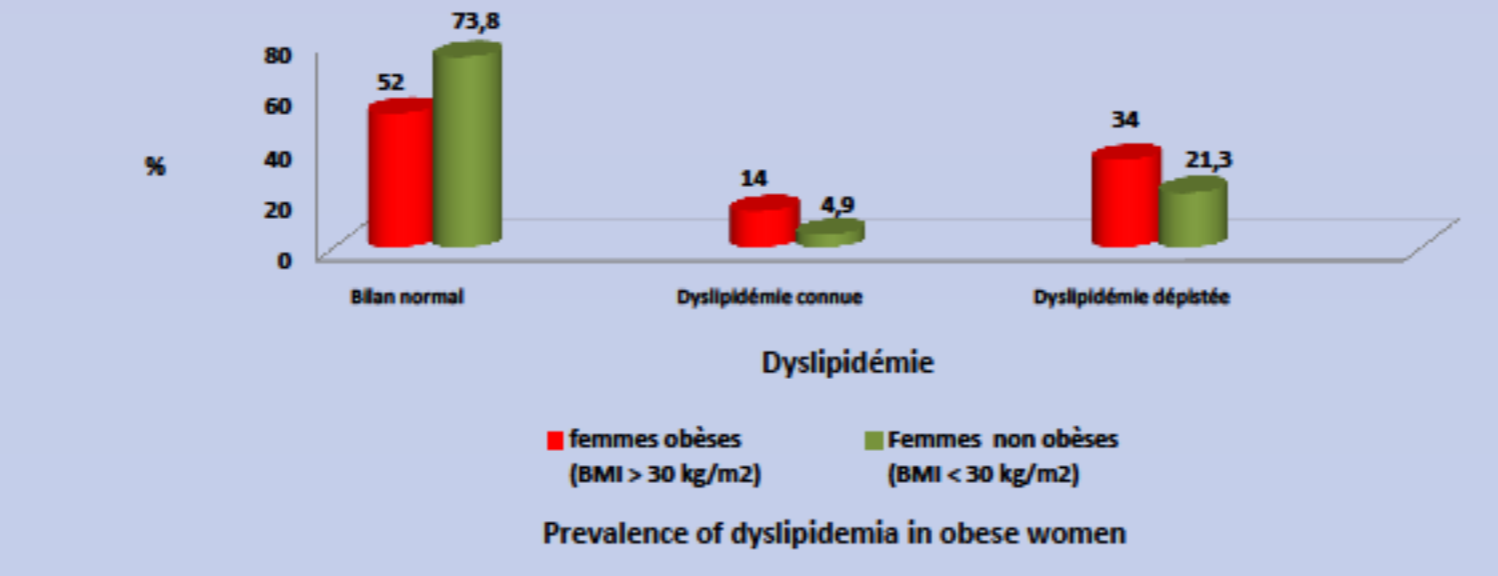
When looking at individuals with a body mass index above 30 kg / m<sup>2</sup> , we note a prevalence of 13.61 % of known dyslipidemia and 35.03% of dyslipidemia discovered during our investigation.

Hommes		BMI < 30 kg/m <sup>2</sup>	BMI > 30 kg/m <sup>2</sup>	Total	P
Bilan normal	Effectif (%)	373 (68,2)	38 (47,5)	411 (65,6)	
Dyslipidémie connue	Effectif (%)	27 (4,9)	9 (27,3)	36 (5,7)	<0,001
Dyslipidémie décelée	Effectif (%)	147 (26,9)	33 (41,2)	180 (28,7)	<0,001
Total	Effectif (%)	547 (100)	80 (100)	627 (100)	



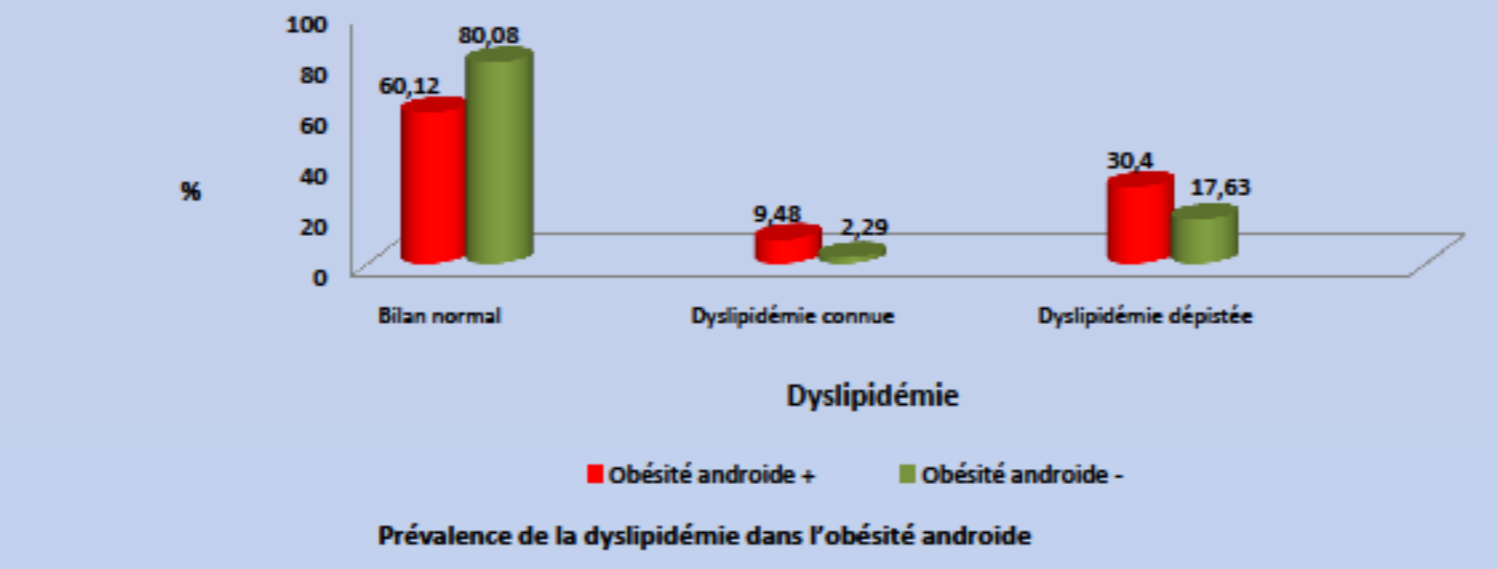
Among men the prevalence of detected dyslipidemia 41.2% in obese versus 26.9% in non-obese (<0.0001) and 27.3% known dyslipidemia in obese versus 4.9% in non-obese (<0.0001).

femmes		BMI < 30 kg/m <sup>2</sup>	BMI > 30 kg/m <sup>2</sup>	Total	P
Bilan normal	Effectif (%)	821 (73,8)	245 (52)	1066 (67,3)	
Dyslipidémie connue	Effectif (%)	54 (4,9)	66 (14)	120 (7,6)	<0,001
Dyslipidémie décelée	Effectif (%)	237 (21,3)	160 (34)	397 (25,1)	<0,001
Total	Effectif (%)	1112 (100)	471 (100)	1583 (100)	



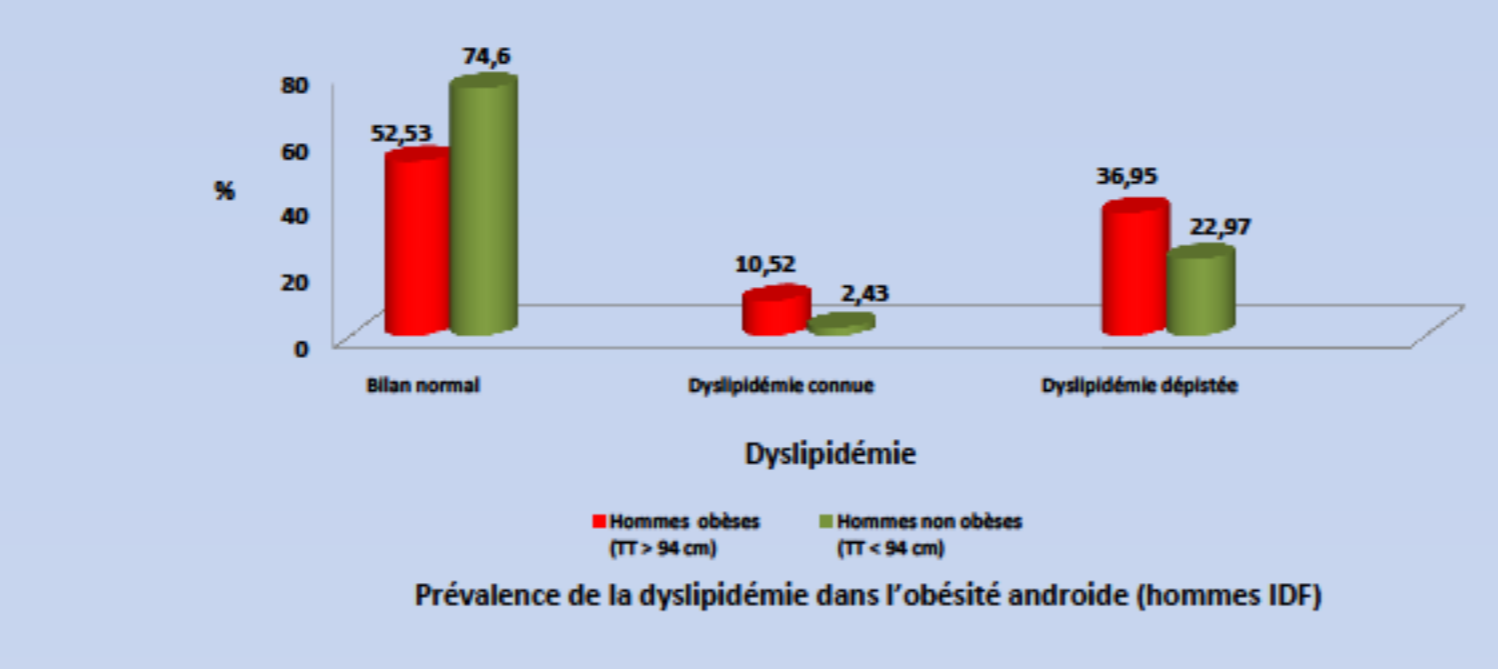
In women the prevalence of diagnosed dyslipidemia is denoted in 34% of obese versus 21.3% of non-obese (<0.0001) and dyslipidemia known in 14% of obese versus 4.9 % of non-obese (<0,0001) .

Hommes et femmes		Obésité androïde -	Obésité androïde ++	Total	P
Bilan normal	Effectif (%)	595 (80,08)	882 (60,12)	1477 (66,83)	
Dyslipidémie connue	Effectif (%)	17 (2,29)	139 (9,48)	156 (7,06)	p = 0,001
Dyslipidémie décelée	Effectif (%)	131 (17,63)	446 (30,4)	577 (26,11)	p = 0,001
Total	Effectif (%)	743 (100)	1467 (100)	2210 (100)	



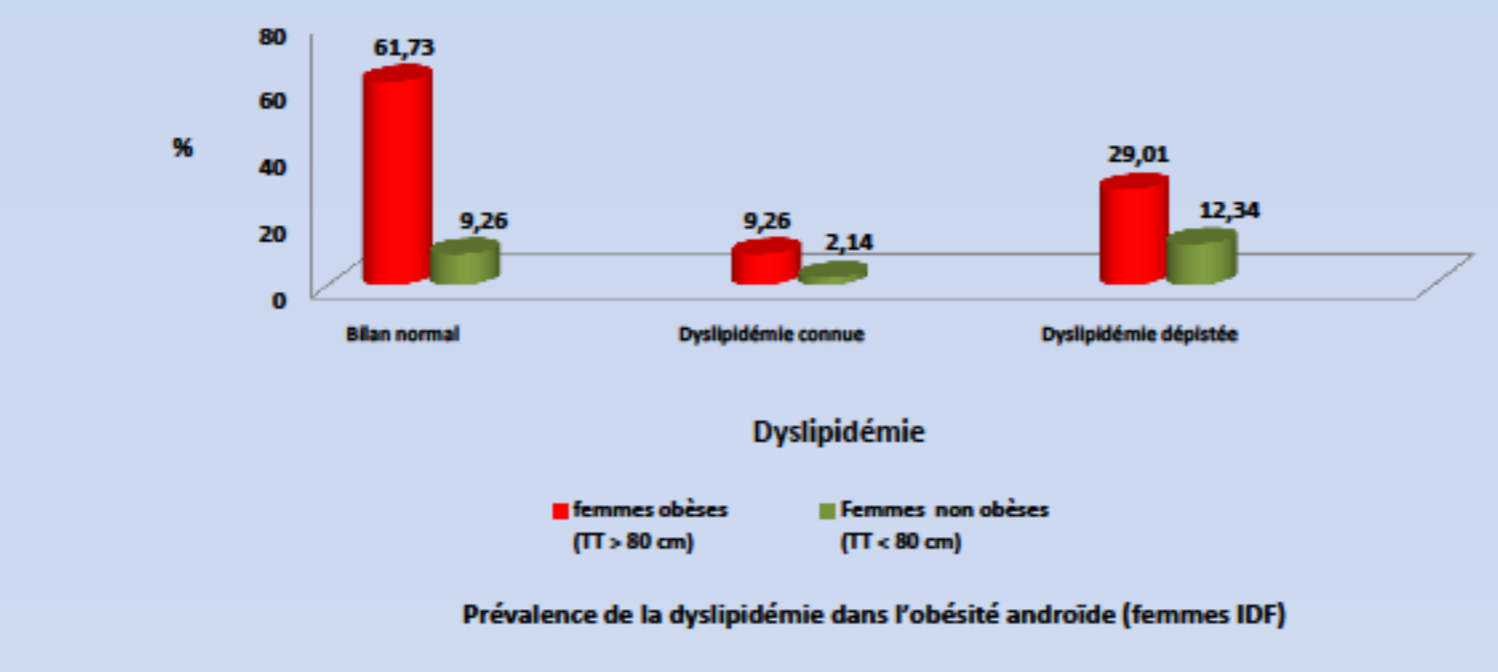
For abdominal obesity (IDF) we find a prevalence of detected dyslipidemia 30.04% of obese versus 17.63% in non-obese (<0.0001) and the known dyslipidemia 9.48 % in obese versus 2.29% in non-obese (<0.0001).

Hommes		TT < 94 cm	TT > 94 cm	Total	P
Bilan normal	Effectif (%)	276 (74,6)	135 (52,53)	411 (65,53)	
Dyslipidémie connue	Effectif (%)	9 (2,43)	27 (10,52)	36 (5,74)	<0,001
Dyslipidémie décelée	Effectif (%)	85 (22,97)	95 (36,95)	180 (28,71)	<0,001
Total	Effectif (%)	370 (100)	257 (100)	627 (100)	



Among men the prevalence of detected dyslipidemia 36.95 % of obese versus 22.97% in non-obese (<0.0001) and 10.52% of known dyslipidemia in obese versus 2.43 % in non-obese (<0.0001).

femmes		TT < 80 cm	TT > 80 cm	Total	P
Bilan normal	Effectif (%)	319 (85,52)	747 (61,73)	1066 (67,34)	
Dyslipidémie connue	Effectif (%)	8 (2,14)	112 (9,26)	120 (7,58)	< 0,001
Dyslipidémie décelée	Effectif (%)	46 (12,34)	351 (29,01)	397 (25,08)	< 0,001
Total	Effectif (%)	373 (100)	1210 (100)	1583 (100)	



In women there is a prevalence of detected dyslipidemia 29.01 % among those with abdominal obesity versus 12.34% in non-obese (<0.0001) and the known dyslipidemia 9.26 % in obese versus 2.14% in non-obese (<0.001).

**Discussion :**

In multivariate analysis , the known and diagnosed dyslipidemics are more obese than the normolipidemics :  
**OR1 known 2,4 (IC 95 % 1,59-3,63) p < 0,001.**      **OR2 diagnosed 1,63 (IC 95 % 1,27-2,08) p < 0,001.**  
 When looking at the android obesity (IDF) , known and tracked hyperlipidemic are also more obese than subjects with normal lipid profile  
**OR1 known 2,27 (IC 95% 1,24-4,15) p < 0,001.**      **OR2 detected 1,8 (IC 95% 1,38-2,62) p < 0,001.**  
 In the study of **STEP WISE** , only cholesterol has been studied showing a prevalence of 4.1 % among men and 6.4% among women with general obesity. In men with android obesity rate of 6.7% of cholesterol was found versus 6.3% for women.  
 For **TAHINA** study, the prevalence of dyslipidemia ( C.T and TG ), in the population with a total obesity, was 23.75% ( 18.73 for men and 24.87 for women). In the population with abdominal obesity (IDF) , the prevalence was 19.18% ( 19.07% versus 19.23% men women ), it was 21.77 % ( 21.55 % of men and 21,81 % of women) when the NCEP -ATP III criteria are used .  
 In a cross sectional study done in 1995 **Iranian** subjects ( 987 men and 998 women) aged between 25 and 65, which aimed to assess the association between the level of serum cholesterol and BMI , noted an association positive between BMI and total cholesterol.  
 In another study in **Sweden** it was concluded that BMI and waist circumference were significantly associated with total cholesterol and non-HDL cholesterol and inversely associated with HDL cholesterol levels.  
 A study among white **American-born** women (314 ) found that changes in BMI of 21.1 kg / m<sup>2</sup> and 30 kg / m<sup>2</sup> were associated with increased cholesterol level of 23mg / dl.  
 A work done among **Turkish** men , found a relationship between dyslipidemia, BMI , waist circumference and age.

**Conclusion :**

Dyslipidemia is a frequent complication of obesity that must be screened to prevent installation of cardiovascular complications that often have implications for high morbidity and mortality and a significant financial cost.

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