BACKGROUND

- Integrase inhibitor-based treatment and tenofovir alafenamide (TAF) have been associated with higher risks of weight gain and clinical obesity in a range of studies.
- Metabolic syndrome has been linked with a high risk of type 2 diabetes, cardiovascular disease, chronic kidney disease, obstructive sleep apnoea etc.

RESULTS

- In ADVANCE, by week 192, probability of obesity was 29% for patients on TAF/FTC/DTG, 18% on TDF/FTC/DTG, and 11% on TDF/FTC/EFV
- In NAMSAL, by week 192, probability of obesity was 26% for TDF/3TC/DTG and 16% for TDF/3TC/EFV
- In VISEND, across both strata, probability of obesity varied from 10-15%
- Probabilities overall and by gender in all three trials, predictors of clinical obesity were female gender, higher baseline HIV RNA, and higher baseline BMI

According to the new IDF definition, for a person to be defined as having the metabolic syndrome they must have:

Central obesity (defined as waist circumference with ethnic specific values)

**plus any two of the following four factors:**

- Raised triglycerides ≥150 mg/dL (1.7 mmol/L) or specific treatment for this lipid abnormality
- Reduced HDL cholesterol <40 mg/dL (1.03 mmol/L) in males, <50 mg/dL (1.29 mmol/L) in females or specific treatment for this lipid abnormality
- Raised blood pressure Systolic BP ≥130 or diastolic BP ≥85 mm Hg or treatment of previously diagnosed hypertension
- Raised fasting plasma glucose (FPG) ≥100 mg/dL (5.6 mmol/L), or previously diagnosed type 2 diabetes If above 5.6 mmol/L or 100 mg/dL, OGTT is strongly recommended but is not necessary to define presence of the syndrome

*If BMI >30 kg/m², central obesity can be assumed, and waist circumference does not need to be measured*

**Table 1:** The new International Diabetes Federation (IDF) definition of metabolic syndrome

**Figure 1:** Time to clinical obesity - ADVANCE

**DISCUSSION AND CONCLUSION**

- Across three randomized trials in 2867 patients, the risks of clinical obesity were significantly higher for DTG-based treatment, especially when combined with TAF/FTC.
- The adverse consequences of clinical obesity (e.g., diabetes, myocardial infarction) need to be factored into decisions on starting or switching to TAF/FTC/DTG, especially if already overweight at baseline.

**REFERENCES:**