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Background and Importance

- Monitoring enoxaparin is not routine as per guidelines but is recommended in renal insufficiency and debated for extreme body weights and pregnancy.

Aim and Objectives

- This study aims to assess enoxaparin monitoring in hospitalized patients and identify variables that correlate with its efficacy.

Materials and Methods

- A descriptive, single-center, retrospective study was conducted.



Dec 2021 - Jan 2023

- ✓ Hospitalized patients receiving therapeutic enoxaparin doses were included, with measurement of peak anti-Xa concentration.

- ✗ Patients undergoing renal replacement therapies were excluded.

Demographic data, laboratory and clinical parameters, and enoxaparin related details were collected.

Anti-Xa target range
0,5 - 1,1 IU/mL

- Multiple Linear Regression was used to analyze the relationship between Enoxaparin Dose and Anti-Xa. Different covariates were assessed: Obesity (BMI \geq 30), Critical Status, and Renal Function.
- The linearity of this relationship was compared between obese and non-obese patients

Results

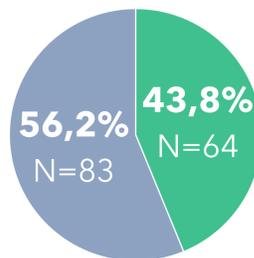
Demographic data

Patients no. (N)	147
Age (years)	68 (\pm 12,29)
Weight (Kg)	85,03 kg (\pm 22,92)
BMI (kg/m ²)	29,64 (\pm 0,61)
Renal Impairment ClCr<30 mL/min (N,%)	15 (10,2%)
Critical Status (N,%)	78 (53,1%)
Enoxaparin Dose (mg/kg)	Obese: 0,91 (\pm 0,15) Non-Obese: 0,95 (\pm 0,02)

Expressed as Mean \pm SD

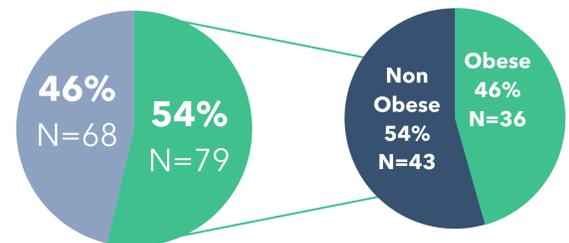
Weight distribution

- Obese patients (BMI \geq 30 kg/m²)
- Non obese patients

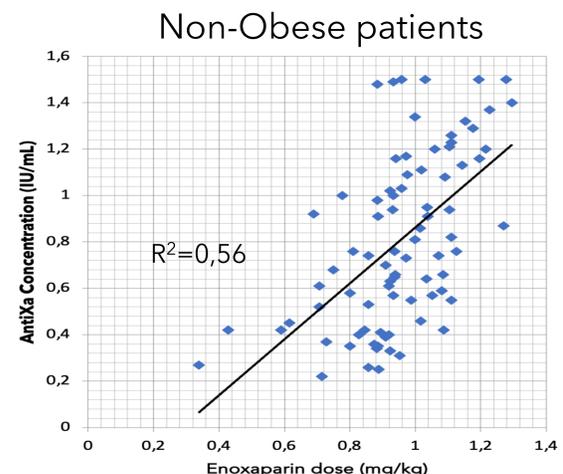
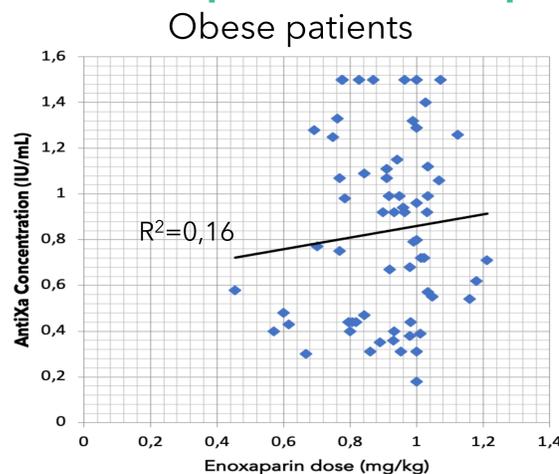


Anti-Xa Concentrations

- Out of range
- In range



Relationship between Enoxaparin Dose and Anti-Xa Concentration



Conclusion and Relevance

- Obesity is identified as the only covariate that shows a significant effect in the association between anti-Xa concentration and enoxaparin dose.
- We confirm the existence of a linear association between anti-Xa concentration and enoxaparin dose for the non-obese population.
- For the obese population, a poor correlation between anti-Xa concentration and enoxaparin dose was found suggesting the need for therapeutic drug monitoring due to a less predictable pharmacokinetics.

