

## ▶ BACKGROUND

- Hyperglycemia is the most frequent complication in patients with parenteral nutrition (PN), numerous factors may favor its appearance.

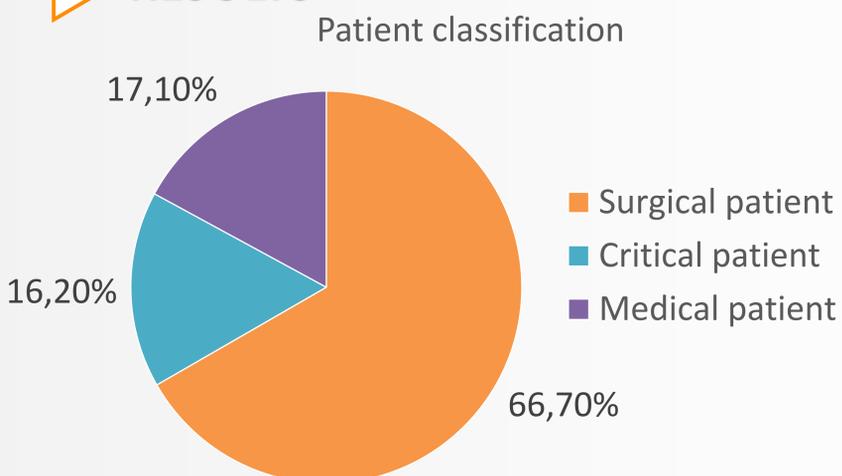
## ▶ OBJECTIVE

- Identify the predictive factors of hyperglycemia in patients with PN in order to guide the design of a starting PN.

## ▶ MATERIAL AND METHODS

- Retrospective observational study (January-December 2016) performed in a 450-bed university hospital.
- All adult patients with central venous PN were included.
- Recorded variables: sex, age, body mass index (BMI), patient classification (surgical, critical and medical), diagnosis, comorbidities, duration and carbohydrates/kg (HC/kg) provided in PN, glycemia prior to PN initiation, renal clearance (Clr), presence of sepsis and treatment with potentially hyperglycemic drugs.
- Hyperglycemia was defined as three consecutive blood glucose levels > 150 mg / L or two > 180 mg / L.
- Descriptive, bivariate and multivariate statistical analysis (binary logistic regression) was performed using the SPSS.v.24 program.

## ▶ RESULTS



**234 patients** were included:  
Men 65.8%  
Mean age 65.3 ± 14.2 years  
Mean BMI 26.1 ± 6.0 kg/m<sup>2</sup>.  
Prevalence hyperglycemia: 44.0%  
Prevalence sepsis: 11.1%

**Comorbidities**  
20.1% diabetes mellitus (DM)  
19.2% dyslipidemia  
10.3% hypertension  
7.3% kidney failure (KF)  
4.3% heart failure (HF)  
1.3% hepatic failure.

The mean duration of PN was 9.3 ± 7.5 days, with a mean of 3.0 ± 0.7 g HC/kg. Mean pre-glycemia was 135.7 ± 47.3 mg / L. 16.7% received corticosteroids, 7.3% octreotide and none immunosuppressants

### Multivariate statistical analysis

| Predictive factors       | P value   | IC           | Odds ratio |
|--------------------------|-----------|--------------|------------|
| DM                       | p <0.001  | 3.028-31.697 | OR: 11.0   |
| previous glycemia        | p <0.001  | 1.026-1.051  | OR: 1.0    |
| corticosteroid treatment | p = 0.023 | 1.183-9.219  | OR: 3.3    |
| Clr                      | p = 0.010 | 0.968-0.996  | OR: 0.982  |

No statistical significance was obtained in relation to age, KF, HF, dyslipidemia, sepsis, PN duration and HC/kg, these variables were significant in the bivariate analysis.

## ▶ CONCLUSIONS

DM, previous elevated blood glucose levels, critical patient, low Clr and treatment with corticosteroids are predictive factors of developing hyperglycemia, it would be convenient to consider them in the design of the PN formula.