

FLUID RESPONSIVENESS ASSESSMENT BY PASSIVE LEG RAISING AND MINI-FLUID CHALLENGE IN MAJOR SURGERY, A PROSPECTIVE STUDY

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BACKGROUND

Guidelines recommend 2-h fasting for clear liquids to ensure euolemia before surgery. *Passive Leg Raising (PLR)* and *Mini-Fluid Challenge (mFC)* are simple methods to assess fluid responsiveness in both awake spontaneously breathing and sedated intubated patients. **Fluid responders (FRs)** are those patients who increase Stroke Volume (ΔSV) >10% after the test. The Starling™SV monitor identifies **FRs** thanks to bioreactance technology.

AIM OF THE STUDY

To evaluate fluid responsiveness preoperatively by PLR and intraoperatively by mFC

METHODS

Preoperatively

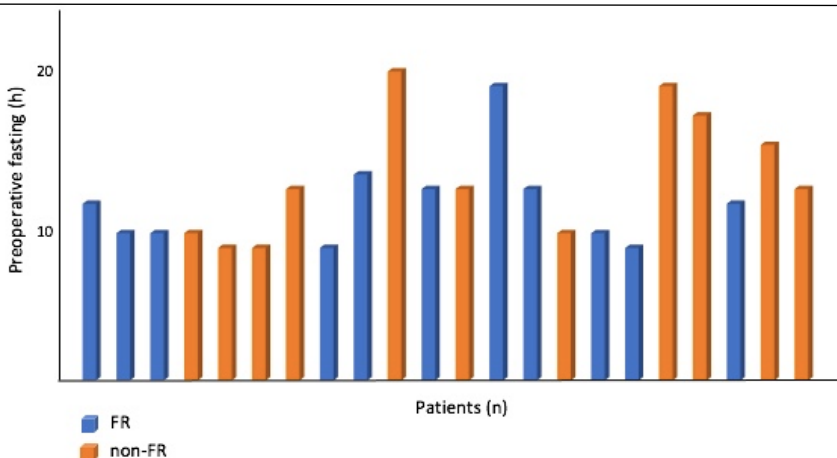
- PLR test was performed to patients undergoing major surgery before the anesthesia induction (PLR 1). **FRs** received 250 ml of balanced crystalloid solution and fluid responsiveness was re-tested at the end of the bolus and again until a **non-FR** state was achieved
- Preoperative fasting time (h)

Intraoperatively

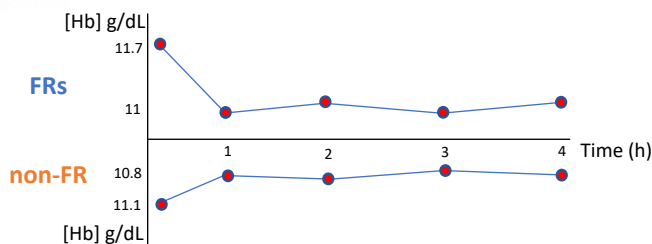
- mFCs with 100 ml of balanced crystalloid solution were performed hourly and **FRs** received the 250 ml-fluid bolus
- [Hb] variation during surgery (hourly)

RESULTS

- 22 patients were enrolled
- 50% of the patients were **FRs** after PLR 1
- Average fasting time was 12 (3.16) h in **FRs** and 13.8 (4.35) h in **non-FRs**



- The [Hb] variation before and after 60 minutes from surgery start was 0.71 (0.66) g/dL for **FRs** and 0.32 (0.56) g/dL for **non-FRs**



CONCLUSIONS

- **PLR** and **mFC** evaluated with the Starling™SV monitor are feasible and efficient tools to guide volume optimization during surgery
- Preoperative fasting does not correlate with PLR test
- [Hb] variation is a sensitive indicator of fluid expansion-restriction in non-bleeding patients