

## HEMODYNAMIC STABILITY OF THE OPIOID FREE ANESTHESIA VERSUS TIVA ANESTHESIA TECHINQUE IN MINIMUM INVASIVE GYNECOLOGICAL SURGERY: PILOT STUDY

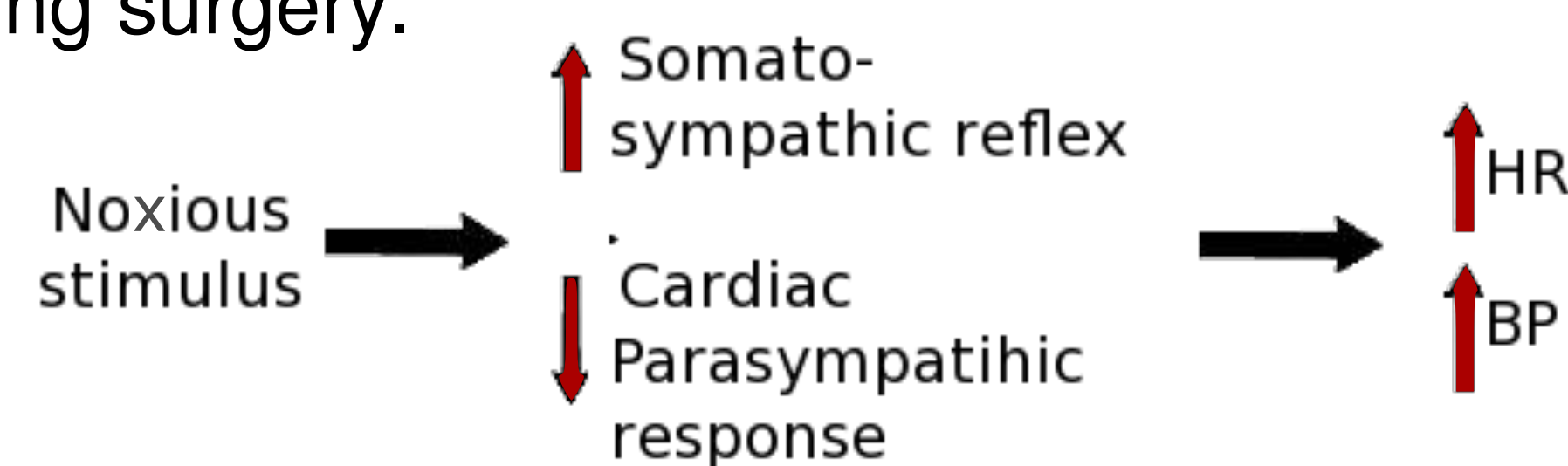
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### Introduction

General anesthesia is based on 3 major components: hypnosis, muscular relaxation and antinociception.

Principal intraoperator index of sufficient antinociception is hemodynamic stability (HR & BP), which can be objectively majuried during surgery.



Historicaly antinociception were achived by using of opioids (act on enkephalinic system), which have a lot of adverse effects (PONV, ileus, hyperalgesia, opioid tolerance). The general intravenous anesthesia technique without opioids (OFA) has been developed and studied since 2015. The expected benefit is avoidance of immediate and lasting adverse effects of opioids, while maintaining the quality and safety of the classic TIVA techinque of anesthesia.

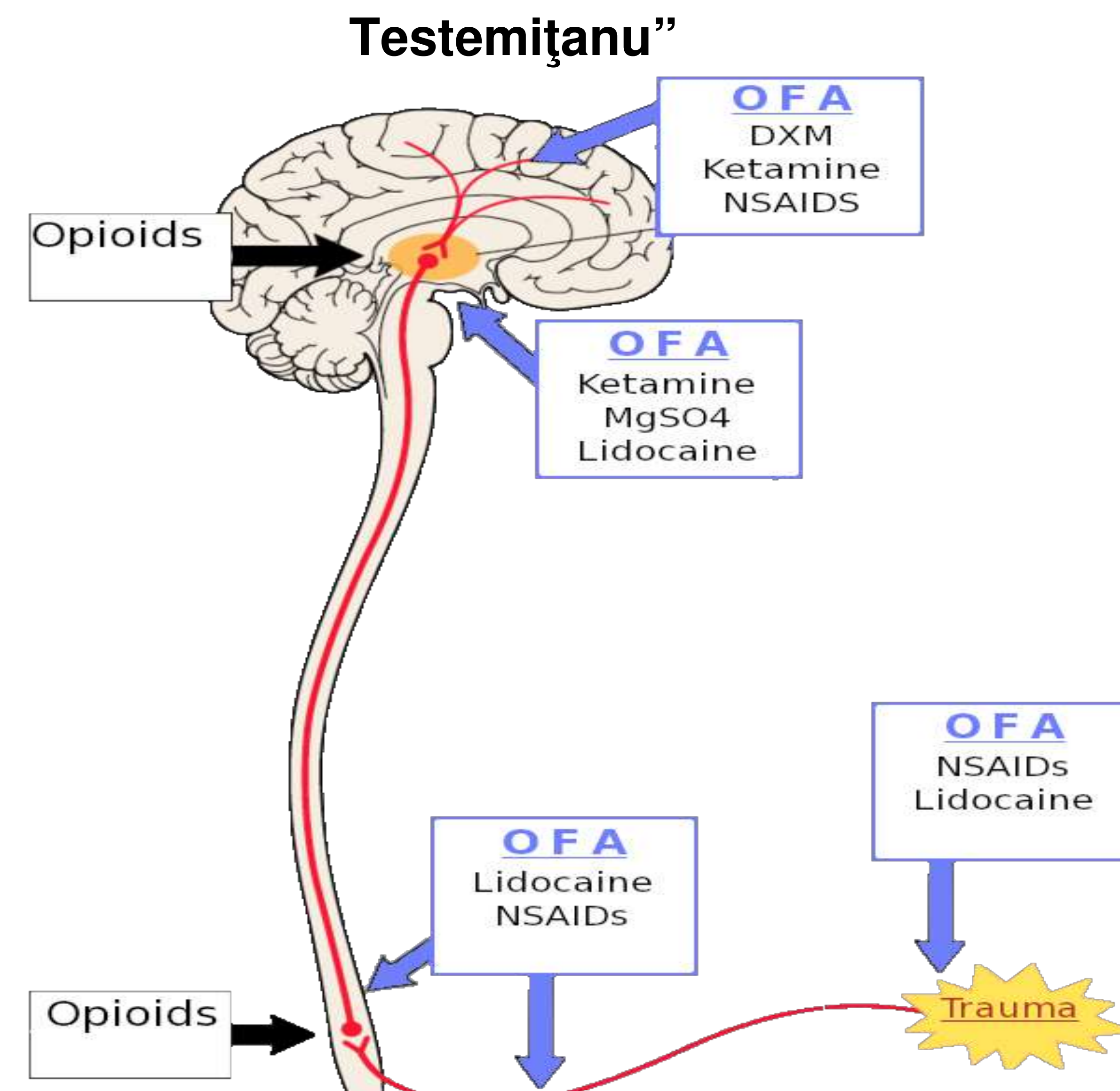
In OFA antinociception is achived by using of Lidocaine (acts on VGSC, muscarinic cholin-ergic and NMDA receptors), Dexmedetomedine (acts on alpha-2 adrenergic receptors), MgSO4 (NMDA receptors), Ketamine (NMDA receptors) and NSAIDs (inhibits COX-1 or COX-2).

### Keywords

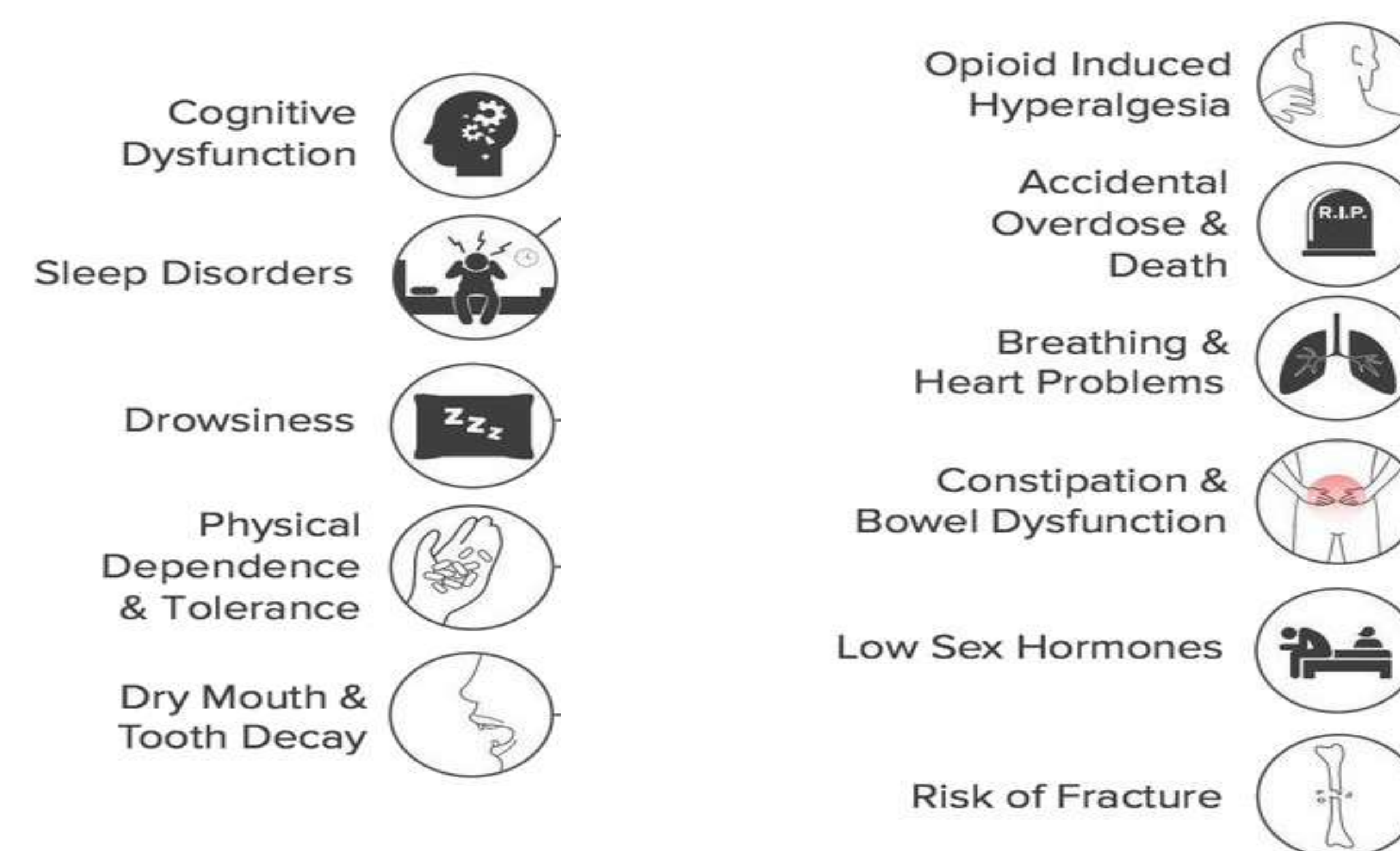
Opioid free anesthesia, TIVA, hemodynamic stability, minimally invasive surgery

### Purpose

Comparison of intraoperative hemodynamic stability in gynecologic minimally invasive surgery, provided by TIVA versus OFA anesthesia techniques



Img. 1. Opioids and Opioid free anesthesia components site of action, scheme



Img. 2. Opioids side effects

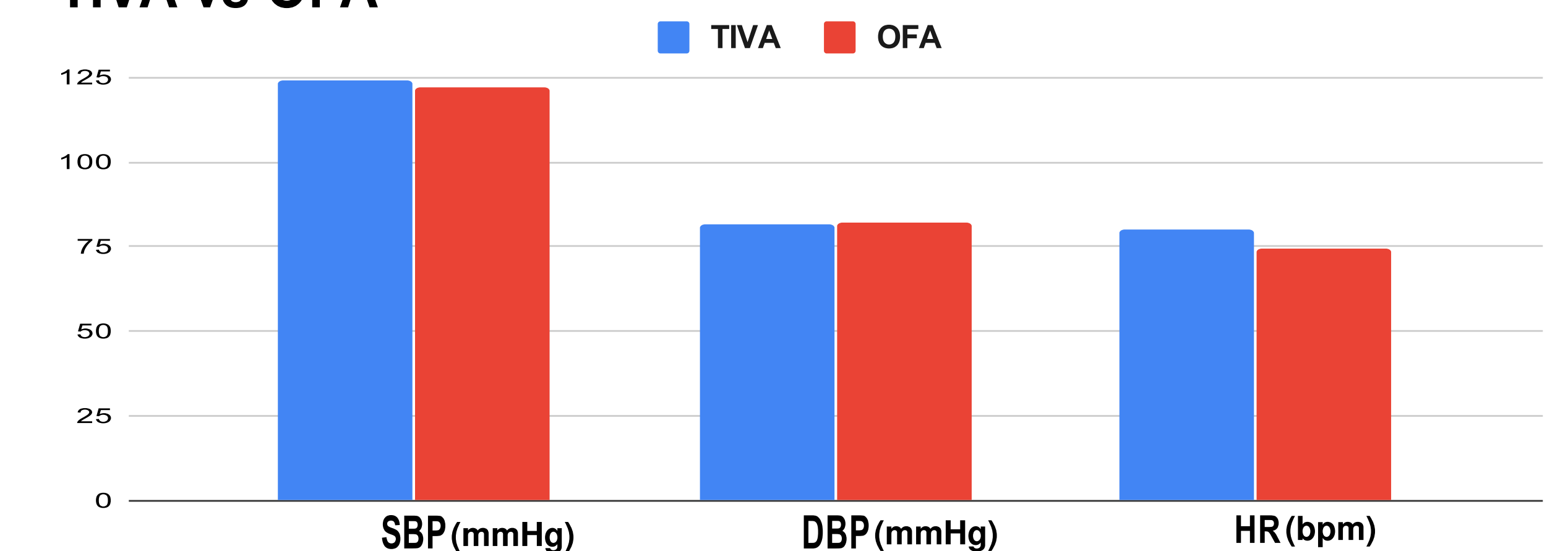
### Material and Methods

Prospective, randomized study. Research Ethics Committee approved. Signed informed agreement. The basic hemodynamic parameters were recorded: systolic (SBP), diastolic (DBP) and mean (MAP) blood pressure, heart rate (HR). Statistical test: t-Student unpaired bicaudal. Statistical software: IBM SPSS Statistics v. 22. Data are presented as average value and standard deviation

### Results

47 young adult patients ASA I-II admitted for scheduled interventions (22 - TIVA, 25 – OFA) enroled. OFA vs. TIVA. SBP=122.1±11.7 mmHg vs. 124.2±11.7 mmHg (p=0.57);DBP = 82,2±8,9 mmHg vs. 81,7±9,0 mmHg (p=0,759); MAP=94.2±8.1 mmHg and 94.6±9.9 mmHg respectively (p = 0.9); HR=74.6±11.3 bpm vs. 80.1±9.1 bpm (p = 0.096). Adverse haemodynamic events (deviations ± 15% from pre-induction period) were not observed

#### TIVA vs OFA



### Conclusion

The OFA anesthesia technique ensures an intraoperative hemodynamic stability similar to the TIVA anesthesia technique. OFA can be considered a safe anesthesia technique from this point of view.