Incidence of postoperative delirium in oncologic patients after laparoscopic surgery in Trendelenburg position.

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1. Background and Goal of Study

Delirium is an acute mental syndrome caused by diffuse cerebral dysfunction. When it occurs in the postoperative period, is a consequence of association of predisposing and precipitating factors. Delirium in the postoperative period (DPP) results in an increased mortality, morbidity and prolongs the length of hospital stay (LOS). Incidence of DPP range from 10% to 50%.

Oncologic surgeries are usually larger and more complex than routine surgeries. Videolaparoscopic surgery (VS) has been increasingly used in oncologic procedures. VS may require Trendelenburg position (TP) for a better visualization of the operative field. This position can increase intracranial pressure and alter the cerebral perfusion. Incidence of DPP in oncologic videolaparoscopic surgeries in TP may be greater than reported in the literature.

Goal of Study: The goal is to study the incidence of DPP in oncologic patients submitted to VS in TP and factors risk associate.

2. Materials and Methods

A prospective study was carried out between the period of November/2017 and April/2018. We evaluated oncologic patients submitted to elective VS in TP, 18 years or older, ASA lesser than 3, and period of at least 2 hours in TP. This study was approved by the Institutional Review Board (2205/16).

Monitoring: Standard ASA associated with BIS and TOF. Induction of anesthesia: Propofol, fentanyl and rocuronium. Maintenance: Desflurane /remifentanyl.

Patients were evaluated in the immediate postoperative until the discharge from hospital to rule out delirium in the postoperative period. Confusion Assessment Method in association with Richmond Agitation Sedation Scale were used to diagnos delirium in the postoperative period.

The chi-square and t-student test were used to evaluated the association between delirium and the risk factors.

3. Results and Discussion

60 patients were evaluated, 38 men and 22 women. The incidence of DPP was 30% and all cases were hyperactive subtype and occurred in the operating room. Regarding to gender, in male the incidence was 39.4 %, and in female was 13.6 % (p=0,07). Table 1 shows the differences between the patients who developed delirium and the patients who did not developed this complication. There are no studies in the literature evaluating the incidence of postoperative delirium in videolaparoscopic oncologic surgeries in TP.

The anesthetic management can represent a challenge in this surgery, especially in TP. The anesthetic procedure has been optimized with multimodal monitoring, as result to the advent of new technologies. In consequence, intraoperative and postoperative complications can be detected early or even be potentially prevented.

Delirium is the most common neurological postoperative complication. The diagnosis of delirium in the postoperative period is not well established. Some authors divide the period into emergence delirium (operating room or immediately after in the postanesthesia care unit) and postoperative delirium (24 – 72 h after surgery). These subdivisions may justify the incidence so variable among the studies and, according to this classification, all our cases were emergence delirium and none were postoperative delirium . Our incidence may have been influenced by anesthetic depth monitoring.

The risk factors for emergence delirium are the following: residual drug effects and altered drug metabolism, elimination, or sensitivity.

Up to now, the risk factors for postoperative delirium with a higher level of evidence are the following: pain, advanced age, type of surgery / specialty, patients with polypharmacy, high dose of opioid and high dose of benzodiazepine.

Risk factors	Not delirium (n= 42)	Delirium (n=18)	p
Age (SD)	57.1 (11.5)	56.0 (11.0)	0.837
Angle TP (SD)	22.7 (5.4)	20.8 (3.9)	0.188
Time in minutes in TP (SD)	171.5 (58.4)	149.7 (37)	0.080
Morphine dose (SD)	1.0 (1.2)	2.0 (3.1)	0.104
LOS in days (SD)	2.7 (2.3)	1.8 (0.9)	0.138
Pneumoperitoneum pressure (SD)	12.4 (1.1)	13.1 (1.3)	0.570

Table 1: statistical analysis (t student test)

4. Conclusion

The knowledge of the incidence of delirium in the postoperative period and the associated risk factors may allow a greater control and even prevention of this complication. A lower incidence of postoperative complications may have an impact on procedure costs and lower morbidity and mortality. The incidence of DPP was 30%, which is in agreement with the literature. We believe that larger cohorts studies will be important for endorse this findings.

References

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