The use of IV Tramadol (Contramal®) versus immediate release Tramadol (Tradonal odis®) in the postoperative period after knee surgery in a day surgery setting. R. DAKHEEL, M.D., A. TEUNKENS, M.D., E. VANDERMEERSCH, M.D., Ph.D., Anesth. Dept., C. Huygens, anesthesia research nurse. University Hospitals, Katholieke Universiteit Leuven, Herestraat 49, B-3000 Leuven, Belgium.

Introduction

Postoperative pain is a serious problem, requiring an appropriate response from the medical doctor.

In Orthopedics special attention is needed after knee surgery (1). Although Tramadol is available in different formulas (capsules, tablets, oral solutions, and injectable solutions), a new form has been developed to optimize and to simplify its use. The new formula is a tablet (Tradonal odis®) with chemical structure providing faster absorption due it's enhanced release (2). The aim of the study is to compare this formula type of tramadol (Tradonal odis®) with the intravenous route (Contramal®) for analgesia after knee surgery.

Methods

After Ethical Committee approval and following informed consent, 60 patients undergoing an elective knee arthroscopy in the surgical day clinic, participated to this open-label study, they were divided into 2 groups (30 received one dose of 100 mg Tradonal odis ® tablet and 30 received one dose of 100 mg IV (Contramal®) postoperatively in the PACU.

Both groups were premedicated with 0.5 mg alprazolam po and the general anesthesia was standardized with intravenous Sufenta®, propofol, ventilation with O2/air (30/70%) through a laryngeal mask and sevoflurane was used for maintenance anaesthesia. Peroperative all Patients received 2g IV Perfusalgan® and 30 mg of IV Taradyl®. Numerical Rating Scale (NRS) 1 to 10 was used to evaluate postoperative pain, and also patient satisfaction, adverse effects of the drugs were also evaluated every ten minutes for the first hour after administration of the study medication, then after an hour postoperatively.

The patient was received extra opioids (IV piritramide), when pain relief proved to be insufficient 30 minutes after administration of the study medication.

The Chi-Square Tests and t-test were used to evaluate statistical relevancy. A value of $p < 0.05$ was considered as statistically significant.

Results

20 pateints were excluded from the study because they did not match the preoperative standardized conditions. In the participated patients the NRS revealed that mild or absent pain(NRS < 4) was present in 18 out of 21 of patients that were treated with contramal®, and 10 out of 19 of patients that were treated with Tradonal odis® ($p < 0.05$). Furthermore, 9 out of 19 patients in the Tradonal odis® group requested extra piritramide as opposed to 3 out of 21 in the Contramal® group (P = 0,02). The incidence of nausea and vomiting was equal between the two groups, nausea was present in 4 out of 21 patients that were treated with contramal®, and 2 out of 19 patients that were treated with Tradonal odis®.

Table

NRS 30 minutes after administration of the study medication

TYPE	TIME (minutes)	Cases					
		NRS < 4		NRS ≥ 4		Total	
		N	Percent	N	Percent	N	Percent
T Odis®	30 m	10	52,4%	9	47,6%	19	100,0%
Contramal®	30 m	18	85,7%	3	14,3%	21	100,0%

Discussion

The efficacy of intravenous tramadol (Contramal®) has already been demonstrated in many trials investigating pain relief after knee surgery (3), there is however no literature made to compare the efficacy of Tardonal odis® in the postoperative setting with the IV Contramal®. In this study we found that patients treated with Contramal® had pain of lower intensity in the first hour after administration compared to those treated with Tradonal odis ®, and less patients required piritramide as supplementary treatment. Furthermore, no significant difference was found in the incidence of nausea and vomiting between the two group.

Conclusion

We concluded that Contramal® is more effective compared to Tradonal odis ® to treat immediate postoperative pain following knee surgery, and with the same incidence of nausea and vomiting.

References

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3. Bamigbade T. A., Langford R. M., *The clinical use of tramadol hydrochloride*, PAIN REV., **5**, 155, 1998.