

台灣急診醫師使用Ketamine之現況探討

Use of ketamine by emergency physicians and in pediatric procedure in Taiwan

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摘要

研究目的：探討臺灣地急診醫師使用 ketamine 作用麻醉用藥之現況，並提供本院過去使用 ketamine 於幼兒創麻醉之經驗。方法：針對國內在民國 89 年以前已領有急診專科醫師執照之醫師，以問卷調查方式探討國內急診醫師關於使用 ketamine 之時機、經驗、頻率以及所對到的困難與併發症。此外，我們也以回溯性研方法對於本院急診室在過去三年內（民國 87 年 1 月 1 日至 89 年 12 月 31 日）所使用過 Ketamine 作麻醉之創傷小兒病例做整理，對於 ketamine 之安全性及方便性提供我們的經驗。研究結果：進入本研之 86 份問卷調查表中，表示曾經選擇使用 ketamine 作為麻醉用藥之急診醫師共有 48 位（55.8%），認為所之急診室每個月使用 ketamine 次數達 10 次以上者有 20.8%，10 次以下者有 79.2%。其中 98.8%都是使用於小兒傷口縫合及小兒簡單之手，如指甲拔除等。64.6%之急診醫師覺得使用 ketamine 最困擾的因素，是此藥物會延長病患的留院時間，27.1%之急診醫師擔心使用 ketamine 會產生藥物相之併發症。而曾遇見之併發症中，45.8%之急診醫師認麻醉後嘔吐最常見。不曾使用者有 38 位（44.2%），甚中 84.2%之急診醫師表示所之急診室沒有常備 ketamine；63.2%之急診醫師表示對 ketamine 之效及藥物動力學認知不夠；60.5%之急診醫師表示對使用 ketamine 後之病患監測欠缺經驗。在過去的三年內，本院急診室曾使用過 ketamine 作麻醉之創傷小兒病例共收集到 76 例，其中只有 4 例（5.3%）出現副作用（嘔吐 3 例；唾液過多 1 例），並無其他嚴重之併發症產生；病患在注射 ketamine 後滯留於急診室之平均時間為 89 分鐘。結論：國內仍有許多急診醫師因欠缺經驗，而不曾於急診室使用過 ketamine 作為小兒病患之麻醉用藥。我們的研究與國外文獻報告都證實在嚴謹規範內，急診醫師於急診室使用 ketamine 作為小兒麻醉用藥是有效、方便而且安全的。

Abstract

The objectie of this study was to investigate the current practice of ketamine sedation in emergency departments (EDs)in Taiwan and to determine the safety of intramuscular

ketamine when administered by emergency physicians (EPs) for pediatric procedures in accordance with a defined protocol. Questionnaires were collected from 195 board-certified emergency physicians in Taiwan concerning their experience in using ketamine. Indications, frequency, adverse reactions, and obstacles in choosing this drug as a sedative in the ED were reviewed. We also retrospectively reviewed 76 consecutive pediatric trauma patients who visited our emergency department (from January 1, 1998 to December 31, 2000) who received ketamine anesthesia for painful or frightening procedures. Their safety profiles and length of stay in the emergency department were also studied. Eighty-six emergency physicians who completed their questionnaires were enrolled in our survey. Only 48 EPs (55.8%) had clinical experience with ketamine sedation in the ED and 79.2% of them predicted that ketamine was used less than 10 times a month in their EDs. Most EPs (98.8%) used ketamine for simple pediatric procedures such as laceration repair and nail removal. EPs usually hesitated to choose this agent in the ED due to the fear that it might prolong the length of stay of patients (64.6%) and cause adverse reactions (27.1%). Nearly half (45.8%) of those who had used ketamine reported that emesis was the most commonly encountered adverse reaction. As many as 38 EPs (44.2%) had no experience in ketamine sedation. Factors that hindered ketamine's use in ED patient care include: (a) ketamine was not readily available in the ED (84.2%) and (b) the treating physicians were not familiar with its pharmacokinetics and pharmacodynamics (63.2%) and patient monitoring during and after sedation (60.5%). The medical charts of 76 consecutive patients admitted for trauma treated with intramuscular ketamine in our hospital were reviewed. Airway complications were not found. Mild adverse reactions occurred in 5.3% and included: emesis without evidence of aspiration (n=4), and excessive salivation (n=1). No child required hospitalization for complications caused by ketamine. The average time from injection to ED discharge was 90 minutes for children given a single intramuscular ketamine injection. Intramuscular ketamine may be administered safely by emergency physicians for pediatric procedures with a well-defined protocol and with appropriate monitoring. But its use by emergency physicians in the emergency department is still a rarity in Taiwan due to physician inexperience and drug unavailability. Although no serious complications were noted in our series, larger prospective studies are needed to establish ketamine's safety profile in Taiwan's EDs. We anticipate that the use of ketamine by emergency physicians will become standardized in the near future.