

ORIGINAL ARTICLE

Comparison of efficacy of intramuscular acetaminophen versus pentazocine as labour analgesics for parturients

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ABSTRACT:

Background: The present study was conducted for comparing the efficacy of intramuscular acetaminophen versus pentazocine as labour analgesics for parturients. **Materials & methods:** A total of 20 subjects were enrolled. The study was done at the antenatal clinics during the health talks and in early labour. All the subjects were randomly divided into two study groups as follows: Group A: Patients receiving intramuscular pentazocine, and Group B: Patients receiving intramuscular acetaminophen. Complete demographic and clinical details of all the patients were obtained. The data collected included the socio-demographic characteristics of the subjects and hourly pain scores. Pain score was assessed by VAS on a scale of 0 to 10. All the results were recoded and analysed by SPSS software. **Results:** Mean VAS at 1 hour among the patients of Group B was 6.9 while that of group A was 5.5. At 2 hours, mean VAS among patients of group B and group A was 0.39 and 0.89 respectively. Significant results were obtained while comparing the mean VAS at 1 hour among the patients of the two study groups. **Conclusion:** The authors conclude that acetaminophen is a suitable alternative parenteral labour analgesic.

Key words: Labour, Analgesia

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INTRODUCTION

Acetaminophen (paracetamol) is recognized as one of the most commonly used synthetic, nonopioid, centrally acting analgesic agents. It represents a key part of pain management in patients with cancer, and is used preoperatively, intraoperatively, and postoperatively in a wide range of surgical settings, offering effective and fast pain relief. Acetaminophen has a well-established efficacy profile, favourable adverse drug reaction profile, and very low potential for harmful drug-drug interactions.¹⁻³

Acetaminophen has been available in oral and rectal formulations for decades. However, controversy exists regarding the suitability of these formulations for use in some settings, such as postoperative or acute care.⁴

Intramuscular pentazocine is a commonly used analgesic for parturients in Zaria, Nigeria. Though it is effective in pain relief but it is commonly associated with maternal side effects such as sedation, nausea, vomiting, and in some cases hypersensitivity reactions. Its use in advanced labour has the risk of causing dose-dependent neonatal central nervous system (CNS) depression evidenced by poor APGAR scores and, in some cases, poor breast-feeding.⁵⁻⁷ Hence; the present study was conducted for comparing the efficacy of intramuscular acetaminophen versus pentazocine as labour analgesics for parturients.

MATERIALS & METHODS

The present study was conducted for comparing the relative efficacy of intramuscular acetaminophen

versus pentazocine as labour analgesics for parturients. A total of 20 subjects were enrolled. The study was done at the antenatal clinics during the health talks and in early labour. All the subjects were randomly divided into two study groups as follows:

Group A: Patients receiving intramuscular pentazocine

Group B: Patients receiving intramuscular acetaminophen

Complete demographic and clinical details of all the patients were obtained. The data collected included the socio-demographic characteristics of the subjects and hourly pain scores. Pain score was assessed by VAS on a scale of 0 to 10. All the results were recoded and analysed by SPSS software.

RESULTS

A total of 20 subjects were enrolled. Mean age of the subjects of group A and group B was 26.5 years and 24.3 years respectively. Mean VAS at 1 hour among the patients of Group B was 6.9 while that of group A was 5.5. At 2 hours, mean VAS among patients of group B and group A was 0.39 and 0.89 respectively. Significant results were obtained while comparing the mean VAS at 1 hour among the patients of the two study groups.

DISCUSSION

There is no doubt that labour is a painful process. There is no evidence that the pains of labour are in any way useful. On the contrary, labour pains may cause maternal distress, which may in turn lead to

poor obstetric outcome. Hence the need to relieve labour pains. Although various methods of analgesia have been applied in labour, there is at present no ideal obstetric analgesic. In developed countries, epidural analgesia is currently practiced, although it may lead to an increase in instrumental delivery and other side-effects. In developing countries, the practice of obstetric analgesia is still in its infancy. Not only are trained anaesthetists few in number, facilities for epidural analgesia are hardly available and even when available, can hardly be afforded by the parturients. Consequently, most parturients in developing countries do not receive any analgesic or receive ineffective ones during labour.⁶⁻¹⁰ Hence; the present study was conducted for comparing the efficacy of intramuscular acetaminophen versus pentazocine as labour analgesics for parturients.

A total of 20 subjects were enrolled. Mean age of the subjects of group A and group B was 26.5 years and 24.3 years respectively. Mean VAS at 1 hour among the patients of Group B was 6.9 while that of group A was 5.5. At 2 hours, mean VAS among patients of group B and group A was 0.39 and 0.89 respectively. Jibril F et al evaluated the literature comparing analgesic efficacy, safety, and pharmacokinetics for IV and oral dosage forms of acetaminophen. For each study, 2 investigators independently extracted data (study design, population, interventions, follow-up, efficacy outcomes, safety outcomes, pharmacokinetic outcomes, and any other pertinent information) and completed risk-of-bias assessments. Six randomized clinical trials were included. Three of the studies reported outcomes pertaining to efficacy, 4 to safety, and 4 to pharmacokinetics. No clinically significant differences in efficacy were found between the 2 dosage forms. Safety outcomes were not reported consistently enough to allow adequate assessment. No evidence was found to suggest that increased bioavailability of the IV formulation enhances efficacy outcomes. For studies reporting clinical outcomes, the results of risk-of-bias assessments were largely unclear. For patients who can take an oral dosage form, no clear indication exists for preferential prescribing of IV acetaminophen.¹¹

In the present study, significant results were obtained while comparing the mean VAS at 1 hour among the patients of the two study groups. Jyothi Shetty et al compared the efficacy of intramuscular tramadol and pentazocine in the first stage of labor. Sixty-five patients were divided into pentazocine group and tramadol group. Subjects received either 30 mg pentazocine or 1 mg/kg tramadol intramuscularly. Pain was assessed using visual analog scale (VAS) before the administration of the drug, at 1 h, 2 h, 4 h, and at full dilatation. Maternal and neonatal side effects were determined. Analgesic effect of the two drugs was not significantly different. Neither of these analgesics was effective towards the end of the first stage. However, in the tramadol group, the majority of women (55%) rated pain as severe, whereas in the

pentazocine group, the majority of women (60%) rated pain as moderately severe. There were not many side effects with either of the drug in the given dosage. Mean injection to delivery interval was significantly shorter in the tramadol group as compared to the pentazocine group. Pentazocine or tramadol can be given for labor pain relief as an alternative to epidural analgesia in resource poor setting.¹²

CONCLUSION

The authors conclude that acetaminophen is a suitable alternative parenteral labour analgesic.

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