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Meptazinol for Obstetric Pain Relief

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Evidence Summary:

According to the conclusions of Cochrane Review, (Smith, L.A et al, 2018) there is no clear evidence of a difference in pain measured during labour when meotazinol is compared with pethidine, although an increase in vomiting among women with mepatazinol is reported. There was no clear evidence of a difference in outcomes for the neonate in terms of fetal heart rate and resuscitation.

Source: Smith LA, Burns E, Cuthbert A. Parenteral opioids for maternal pain management in labour. Cochrane Database of Systematic Reviews 2018, Issue 6. Art. No.: CD007396. DOI: 10.1002/14651858.CD007396.pub3 .

1. Influence of Different Methods of Intrapartum Analgesia on the Progress of Labour and on Perinatal Outcome.

Author(s): Ortiz, Javier U; Hammerl, Thomas; Wasmaier, Maria; Wienerroither, Valerie; Haller, Bernhard; Hamann, Moritz; Kuschel, Bettina; Lobmaier, Silvia M

Source: Geburtshilfe und Frauenheilkunde; Apr 2019; vol. 79 (no. 4); p. 389-395

Publication Date: Apr 2019

Publication Type(s): Journal Article

PubMedID: 31000884

Available at Geburtshilfe und Frauenheilkunde - from Unpaywall

Abstract: Background Various methods of intrapartum analgesia are available these days. Pethidine, meptazinol and epidural analgesia are among the most commonly used techniques. A relatively new one is patient-controlled intravenous analgesia with remifentanil, although the experiences published so far in Germany are limited. Our goal was to study the influence of these analgesic techniques (opioids vs. patient-controlled intravenous analgesia with remifentanil vs. epidural analgesia) on the second stage of labour and on perinatal outcome. Material and Methods We conducted a retrospective study with 254 parturients. The women were divided into 4 groups based on the analgesic technique and matched for parity, maternal age and gestational age (opioids n = 64, patient-controlled intravenous analgesia with remifentanil n = 60, epidural analgesia n = 64, controls without the medicinal products mentioned n = 66). Maternal, fetal and neonatal data were analysed. Results The expulsive stage was prolonged among both primiparas and multiparas with patient-controlled intravenous analgesia with remifentanil (79 [74] vs. 44 [55] min, p = 0.016, and 28 [68] vs. 10 [11] min, p < 0.001, respectively) and epidural analgesia (90 [92] vs. 44 [55] min, p = 0.004, and 22.5 [73] vs. 10 [11] min, p = 0.003, respectively) compared with the controls. The length of the pushing stage was similar among primiparas in all groups but prolonged compared with the controls in multiparas with patient-controlled intravenous analgesia with remifentanil (15 [17] vs. 5 [7] min, p = 0.001) and epidural analgesia (10 [15] vs. 5 [7] min, p = 0.006). The Apgar, umbilical arterial pH and base excess values were similar between the groups, as were the rates of acidosis and neonatal intensive care unit admission. Conclusion Parturients with patient-controlled intravenous analgesia with remifentanil and epidural analgesia showed a prolonged expulsive stage compared with the opioid group and controls. The short-term neonatal outcome was not influenced by the three methods examined.

Database: Medline

2. Parenteral opioids for maternal pain management in labour

Author(s): Smith L.A.; Burns E.; Cuthbert A.

Source: Cochrane Database of Systematic Reviews; Jun 2018; vol. 2018 (no. 6)

Publication Date: Jun 2018

Publication Type(s): Review

PubMedID: 29870574

Available at Cochrane Database of Systematic Reviews - from Cochrane Collaboration (Wiley)

Abstract: Background: Parenteral opioids (intramuscular and intravenous drugs including patient-controlled analgesia) are used for pain relief in labour in many countries throughout the world. This review is an update of a review first published in 2010. Objective(s): To assess the effectiveness, safety and acceptability to women of different types, doses and modes of administration of parenteral opioid analgesia in labour. A second objective is to assess the effects of opioids in labour on the baby in terms of safety, condition at birth and early feeding. Search Method(s): We searched Cochrane Pregnancy and Childbirth's Trials Register, ClinicalTrials.gov, the WHO International Clinical Trials Registry Platform (ICTRP) (11 May 2017) and reference lists of retrieved studies. Selection Criteria: We included randomised controlled trials examining the use of intramuscular or intravenous opioids (including patient-controlled analgesia) for women in labour. Cluster-randomised trials were also eligible for inclusion, although none were identified. We did not include quasi-randomised trials. We looked at studies comparing an opioid with another opioid, placebo, no treatment, other non-pharmacological interventions (transcutaneous electrical nerve stimulation (TENS)) or inhaled analgesia. Data Collection and Analysis: Two review authors independently assessed trials for inclusion and risk of bias, extracted data and checked them for accuracy. We assessed the quality of each evidence synthesis using the GRADE approach. Main Result(s): We included 70 studies that compared an opioid with placebo or no treatment, another opioid administered intramuscularly or intravenously or compared with TENS applied to the back. Sixty-one studies involving more than 8000 women contributed data to the review and these studies reported on 34 different comparisons; for many comparisons and outcomes only one study contributed data. All of the studies were conducted in hospital settings, on healthy women with uncomplicated pregnancies at 37 to 42 weeks' gestation. We excluded studies focusing on women with pre-eclampsia or pre-existing conditions or with a compromised fetus. Overall, the evidence was graded as low- or very low-quality regarding the analgesic effect of opioids and satisfaction with analgesia; evidence was downgraded because of study design limitations, and many of the studies were underpowered to detect differences between groups and so effect estimates were imprecise. Due to the large number of different comparisons, it was not possible to present GRADE findings for every comparison. For the comparison of intramuscular pethidine (50 mg/100 mg) versus placebo, no clear differences were found in maternal satisfaction with analgesia measured during labour (number of women satisfied or very satisfied after 30 minutes: 50 women; 1 trial; risk ratio (RR) 7.00, 95% confidence interval (CI) 0.38 to 128.87, very low-quality evidence), or number of women requesting an epidural (50 women; 1 trial; RR 0.50, 95% CI 0.14 to 1.78; very low-quality evidence). Pain scores (reduction in visual analogue scale (VAS) score of at least 40 mm: 50 women; 1 trial; RR 25, 95% CI 1.56 to 400, low-quality evidence) and pain measured in labour (women reporting pain relief to be "good" or "fair" within one hour of administration: 116 women; 1 trial; RR 1.75, 95% CI 1.24 to 2.47, low-quality evidence) were both reduced in the pethidine group, and fewer women requested any additional analgesia (50 women; 1 trial; RR 0.71, 95% CI 0.54 to 0.94, low-quality evidence). There was limited information on adverse effects and harm to women and babies. There were few results that clearly showed that one opioid was more effective than another. Overall, findings indicated that parenteral opioids provided some pain relief and moderate satisfaction with analgesia in labour. Opioid drugs were associated with maternal nausea, vomiting and drowsiness, although different opioid drugs were associated with different adverse effects. There was no clear evidence of adverse

effects of opioids on the newborn. We did not have sufficient evidence to assess which opioid drug provided the best pain relief with the least adverse effects. Authors' conclusions: Though most evidence is of low- or very-low quality, for healthy women with an uncomplicated pregnancy who are giving birth at 37 to 42 weeks, parenteral opioids appear to provide some relief from pain in labour but are associated with drowsiness, nausea, and vomiting in the woman. Effects on the newborn are unclear. Maternal satisfaction with opioid analgesia was largely unreported. The review needs to be examined alongside related Cochrane reviews. More research is needed to determine which analgesic intervention is most effective, and provides greatest satisfaction to women with acceptable adverse effects for mothers and their newborn.

Database: EMBASE

3. Efficacy and Effects of Parenteral Pethidine or Meptazinol and Regional Analgesia for Pain Relief during Delivery. A Comparative Observational Study.

Author(s): Singer, J; Jank, A; Amara, S; Stepan, P D H; Kaisers, U; Hoehne, C

Source: Geburtshilfe und Frauenheilkunde; Sep 2016; vol. 76 (no. 9); p. 964-971

Publication Date: Sep 2016

Publication Type(s): Journal Article

PubMedID: 27681521

Abstract: Background: Peripartum anesthesia may consist of parenteral opioids and/or regional analgesia. There is only limited data in the literature comparing both methods in daily obstetric practice. This observational study investigated the opioids pethidine and meptazinol as well as regional analgesics with regard to their administration, efficacy, side effects and subjective maternal satisfaction with therapy. The rates of secondary regional analgesia administration after administration of the respective opioid served as a means of evaluating treatment. Methods: This study collected data on pain management during vaginal delivery in a German university hospital over a twelve month period. Severity of pain was measured intrapartum using a numerical rating scale. Maternal, neonatal and delivery-related data were obtained postpartum from the clinical records and from the mothers using a questionnaire. Results: The study is based on data obtained from 449 deliveries. Pain relief achieved by the administration of pethidine and meptazinol was similarly low; maternal satisfaction with the respective therapy was high. Meptazinol was usually administered intravenously (83 % vs. 6 %; $p < 0.001$), repeatedly (27 % vs. 6 %; $p < 0.001$) and closer to the birth (1.9 ± 2.7 h vs. 2.6 ± 2.8 h; $p < 0.05$) compared to pethidine. Secondary regional analgesia was more common after the administration of pethidine (16 % vs. 8 %; $p < 0.05$). Regional analgesia resulted in greater pain relief compared to opioid therapy (78 % vs. 24 % after 30 min; $p < 0.001$) and was associated with longer times to delivery (7.6 ± 2.5 h vs. 5.7 ± 2.5 h; $p < 0.001$) and higher levels of maternal satisfaction with therapy (6.1 ± 1.2 vs. 4.8 ± 1.6 on a 7-point scale; $p < 0.001$). Conclusion: In daily clinical practice, meptazinol can be adapted more readily to changes during birth and requires less secondary analgesia. Regional neuraxial analgesia was found to be an efficacious and safe way of managing labor pain.

Database: Medline

4. Analgesia in obstetrics

Author(s): Heesen M.; Veeser M.

Source: Geburtshilfe und Frauenheilkunde; 2012; vol. 72 (no. 7); p. 596-601

Publication Date: 2012

Publication Type(s): Review

Available at Geburtshilfe und Frauenheilkunde - from Unpaywall

Abstract: Background: An effective relief of labour pain has become an important part of obstetric medicine. Therefore regional nerve blocks, systemic analgesic and non-pharmacologic techniques are commonly used. This review article gives a summary of pathophysiology and anatomy of labour pain as well as advantages, disadvantages, risks and adverse reactions of analgesic techniques in newborns and parturients. Methods: We performed a selective literature search in Medline via PubMed using the search-terms "Analgesiao" and "Obstetricso". We also included the current guidelines of the German Society for Anesthesiology and Intensive Care Medicine. Results: PDA and CSE are safe techniques for the relief of labour pain if contraindications are excluded. The risk for instrumental delivery but not for caesarean section is increased under neuraxial analgesia. PDA and CSE should be performed in an early stage of labour using low doses of local anaesthetics if possible. It is not necessary to wait for a defined cervical dilatation before starting neuraxial analgesia. Anesthesiologists and obstetricians should inform patients as soon as possible before the situation of stress during labour. Systemic opioid analgesia is a possible alternative for neuraxial techniques. Because of possible side effects systemic remifentanil analgesia should only be performed under continuous monitoring. Several nonpharmacologic methods can also relieve labour pain, but results of studies about their effectiveness are inconsistent. © Georg Thieme Verlag KG Stuttgart . New York.

Database: EMBASE

5. Pain management for women in labour: an overview of systematic reviews.

Author(s): Jones, Leanne; Othman, Mohammad; Dowswell, Therese; Alfirevic, Zarko; Gates, Simon; Newburn, Mary; Jordan, Susan; Lavender, Tina; Neilson, James P

Source: The Cochrane database of systematic reviews; Mar 2012 (no. 3); p. CD009234

Publication Date: Mar 2012

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article Review Systematic Review

PubMedID: 22419342

Available at The Cochrane database of systematic reviews - from Cochrane Collaboration (Wiley)

Abstract:BACKGROUNDThe pain that women experience during labour is affected by multiple physiological and psychosocial factors and its intensity can vary greatly. Most women in labour require pain relief. Pain management strategies include non-pharmacological interventions (that aim to help women cope with pain in labour) and pharmacological interventions (that aim to relieve the pain of labour).OBJECTIVESTo summarise the evidence from Cochrane systematic reviews on the efficacy and safety of non-pharmacological and pharmacological interventions to manage pain in labour. We considered findings from non-Cochrane systematic reviews if there was no relevant Cochrane review.METHODSWe searched the Cochrane Database of Systematic Reviews (The Cochrane Library 2011, Issue 5), The Cochrane Database of Abstracts of Reviews of Effects (The Cochrane Library 2011, Issue 2 of 4), MEDLINE (1966 to 31 May 2011) and EMBASE (1974 to 31 May 2011) to identify all relevant systematic reviews of randomised controlled trials of pain management in labour. Each of the contributing Cochrane reviews (nine new, six updated) followed a generic protocol with 13 common primary efficacy and safety outcomes. Each Cochrane review included

comparisons with placebo, standard care or with a different intervention according to a predefined hierarchy of interventions. Two review authors extracted data and assessed methodological quality, and data were checked by a third author. This overview is a narrative summary of the results obtained from individual reviews.MAIN RESULTSWe identified 15 Cochrane reviews (255 included trials) and three non-Cochrane reviews (55 included trials) for inclusion within this overview. For all interventions, with available data, results are presented as comparisons of: 1. Intervention versus placebo or standard care; 2. Different forms of the same intervention (e.g. one opioid versus another opioid); 3. One type of intervention versus a different type of intervention (e.g. TENS versus opioid). Not all reviews included results for all comparisons. Most reviews compared the intervention with placebo or standard care, but with the exception of opioids and epidural analgesia, there were few direct comparisons between different forms of the same intervention, and even fewer comparisons between different interventions. Based on these three comparisons, we have categorised interventions into: " What works" ,"What may work", and "Insufficient evidence to make a judgement".WHAT WORKSEvidence suggests that epidural, combined spinal epidural (CSE) and inhaled analgesia effectively manage pain in labour, but may give rise to adverse effects. Epidural, and inhaled analgesia effectively relieve pain when compared with placebo or a different type of intervention (epidural versus opioids). Combined-spinal epidurals relieve pain more quickly than traditional or low dose epidurals. Women receiving inhaled analgesia were more likely to experience vomiting, nausea and dizziness.When compared with placebo or opioids, women receiving epidural analgesia had more instrumental vaginal births and caesarean sections for fetal distress, although there was no difference in the rates of caesarean section overall. Women receiving epidural analgesia were more likely to experience hypotension, motor blockade, fever or urinary retention. Less urinary retention was observed in women receiving CSE than in women receiving traditional epidurals. More women receiving CSE than low-dose epidural experienced pruritus. WHAT MAY WORKThere is some evidence to suggest that immersion in water, relaxation, acupuncture, massage and local anaesthetic nerve blocks or non-opioid drugs may improve management of labour pain, with few adverse effects. Evidence was mainly limited to single trials. These interventions relieved pain and improved satisfaction with pain relief (immersion, relaxation, acupuncture, local anaesthetic nerve blocks, non-opioids) and childbirth experience (immersion, relaxation, non-opioids) when compared with placebo or standard care. Relaxation was associated with fewer assisted vaginal births and acupuncture was associated with fewer assisted vaginal births and caesarean sections.INSUFFICIENT EVIDENCEThere is insufficient evidence to make judgements on whether or not hypnosis, biofeedback, sterile water injection, aromatherapy, TENS, or parenteral opioids are more effective than placebo or other interventions for pain management in labour. In comparison with other opioids more women receiving pethidine experienced adverse effects including drowsiness and nausea. AUTHORS' CONCLUSIONSMost methods of non-pharmacological pain management are non-invasive and appear to be safe for mother and baby, however, their efficacy is unclear, due to limited high quality evidence. In many reviews, only one or two trials provided outcome data for analysis and the overall methodological quality of the trials was low. High quality trials are needed.There is more evidence to support the efficacy of pharmacological methods, but these have more adverse effects. Thus, epidural analgesia provides effective pain relief but at the cost of increased instrumental vaginal birth.It remains important to tailor methods used to each woman's wishes, needs and circumstances, such as anticipated duration of labour, the infant's condition, and any augmentation or induction of labour.A major challenge in compiling this overview, and the individual systematic reviews on which it is based, has been the variation in use of different process and outcome measures in different trials, particularly assessment of pain and its relief, and effects on the neonate after birth. This made it difficult to pool results from otherwise similar studies, and to derive conclusions from the totality of evidence. Other important outcomes have simply not been assessed in trials; thus, despite concerns for 30 years or more about the effects of maternal opioid administration during labour on subsequent neonatal behaviour and its influence on breastfeeding, only two out of 57 trials of opioids reported breastfeeding as an

outcome. We therefore strongly recommend that the outcome measures, agreed through wide consultation for this project, are used in all future trials of methods of pain management.

Database: Medline

6. The effects of maternal labour analgesia on the fetus

Author(s): Reynolds F.

Source: Best Practice and Research: Clinical Obstetrics and Gynaecology; Jun 2010; vol. 24 (no. 3); p. 289-302

Publication Date: Jun 2010

Publication Type(s): Review

PubMedID: 20005180

Abstract: Maternal labour pain and stress are associated with progressive fetal metabolic acidosis. Systemic opioid analgesia does little to mitigate this stress, but opioids readily cross the placenta and cause fetal-neonatal depression and impair breast feeding. Pethidine remains the most widely used, but alternatives, with the possible exception of remifentanil, have little more to offer. Inhalational analgesia using Entonox is more effective and, being rapidly exhaled by the newborn, is less likely to produce lasting depression. Neuraxial analgesia has maternal physiological and biochemical effects, some of which are potentially detrimental and some favourable to the fetus. Actual neonatal outcome, however, suggests that benefits outweigh detrimental influences. Meta-analysis demonstrates that Apgar score is better after epidural than systemic opioid analgesia, while neonatal acid-base balance is improved by epidural compared to systemic analgesia and even compared to no analgesia. Successful breast feeding is dependent on many factors, therefore randomized trials are required to elucidate the effect of labour analgesia.

Database: EMBASE

7. Effects of labour analgesia on the baby

Author(s): Reynolds F.

Source: Fetal and Maternal Medicine Review; Feb 1998; vol. 10 (no. 1); p. 45-59

Publication Date: Feb 1998

Publication Type(s): Review

Database: EMBASE

8. Patient-controlled analgesia following caesarean section: A comparison of morphine and meptazinol

Author(s): James K.S.; McGrady E.; Davidson I.T.

Source: International Journal of Obstetric Anesthesia; Apr 1997; vol. 6 (no. 2); p. 93-96

Publication Date: Apr 1997

Publication Type(s): Article

PubMedID: 15321288

Abstract: Forty-eight women were investigated in a prospective double-blind study and randomised to receive intravenous patient-controlled analgesia (PCA) with meptazinol or morphine following elective caesarean section. Women received PCA boluses of 1 mg morphine or 10 mg meptazinol with no background infusion. Total drug consumption measured over a 24 h period, pain (visual analogue scores), sedation scores, incidence of nausea and vomiting, and requests for rescue analgesia were compared. Both meptazinol and morphine delivered via PCA provide satisfactory analgesia after caesarean section. There was no statistically significant difference in pain scores (P = 0.47) or the incidence of side-effects (nausea/vomiting P = 0.076, sedation P = 0.63) between the two drugs. Meptazinol is more expensive and offers no clinical advantages in this group of patients.

Database: EMBASE

9. A double blind quantitative study of the effects of meptazinol and pethidine on the fetal heart rate in labour

Author(s): Wheble A.M.; Dawes G.S.; Gillmer M.D.G.; Sykes G.S.

Source: Journal of Obstetrics and Gynaecology; 1988; vol. 8 (no. 3); p. 248-252

Publication Date: 1988

Abstract:A double blind controlled trial was carried out to measure the effect of pethidine and meptazinol on the fetal heart rate in labour. Patients who selected epidural or inhalational analgesia were used as controls. The fetal heart rate was analysed numerically, using a microcomputer, for 45-60 min before and after drug administration to allow for fetal behavioural state changes. Controls showed no change in heart rate or its variation over two successive periods of observation. The mean numbers of accelerations (> 10 beats per min and 15 s duration) were reduced by 46 per cent (P < 0.001) with pethidine administration and by 33 per cent (P < 0.05) with meptazinol. The reduction in overall fetal heart rate variation with pethidine was only 20 per cent (P < 0.05); no change was demonstrated with meptazinol. The mean umbilical artery pH at delivery was 7.28 in the meptazinol babies, higher than the mean of 7.22 in the controls (P < 0.05), but no other differences in the blood gas values were found.

Database: EMBASE

10. Feasibility of self-administration analgesia by the intramuscular route in labour.

Author(s): Li, D F; Rees, G A; Rosen, M

Source: European journal of obstetrics, gynecology, and reproductive biology; Feb 1988; vol. 27 (no. 2); p. 99-104

Publication Date: Feb 1988

Publication Type(s): Comparative Study Controlled Clinical Trial Clinical Trial Journal Article

PubMedID: 3277876

Abstract: The feasibility of patient-controlled on-demand analgesia by the intramuscular route during labour was tested on 10 primigravid mothers. Pethidine 50 mg or meptazinol 75 mg was available double-blind at minimum intervals of 20 min. The mean dose demanded was 190 (SD 96.2) mg of pethidine and 285 (SD 97.8) mg of meptazinol. The dose of pethidine is similar to that demanded by the intravenous route. Pain evaluations were not significantly different, but one mother who had meptazinol opted for epidural analgesia, and 2 wished they had done so. The system could be easily managed by all the mothers and there were not technical difficulties. Self-administered intramuscular analgesia could be instituted by a midwife with a dosage scheme similar to current practice. A field trial by midwives of self-administered intramuscular analgesia with pethidine is indicated.

Database: Medline

11. A double-blind study comparing meptazinol and pethidine for pain relief in labour.

Author(s): Osler, M

Source: European journal of obstetrics, gynecology, and reproductive biology; Sep 1987; vol. 26 (no. 1); p. 15-18

Publication Date: Sep 1987

Publication Type(s): Comparative Study Controlled Clinical Trial Clinical Trial Journal Article

PubMedID: 3666261

Abstract:A double-blind comparison of meptazinol 100 mg and pethidine 75 mg as analgesics during the first stage of labour was undertaken in 199 patients. Injections were allowed to be repeated at intervals of 2 h to a maximum of three doses. There were only minor differences between the two drugs with regard to pain relief and no differences in the need for supplementary epidural and pudendal blocks and neonatal status and behaviour. It is concluded that meptazinol and pethidine are of equal clinical value as analgesic injections during the first stage of labour.

Database: Medline

12. A comparison of the effects of maternally administered meptazinol and pethidine on neonatal acid-base status.

Author(s): de Boer, F C; Shortland, D; Simpson, R L; Clifford, W A; Catley, D M

Source: British journal of obstetrics and gynaecology; Mar 1987; vol. 94 (no. 3); p. 256-261

Publication Date: Mar 1987

Publication Type(s): Comparative Study Randomized Controlled Trial Clinical Trial Journal Article

PubMedID: 3567124

Abstract:A randomized double-blind study compared the effects of equi-analgesic doses of maternally administered meptazinol (1.5 mg/kg) and pethidine (1.5 mg/kg) on neonatal acid-base status. Heel-prick samples were taken for assessment of acid-base status at 10 and 60 min after delivery. Maternal antenatal history, details of labour and neonatal status at delivery were also recorded. Meptazinol produced less neonatal respiratory depression than pethidine: the mean 10 min acid-base data from 16 infants whose mothers received pethidine were indicative of a respiratory acidosis (pH 7.13, SD 0.08, PCO2, 9.11, SD 2.2 kPa; standard bicarbonate 22.3, SD 3.1 mmol/l). This was not evident in the mean acid-base data from 16 infants whose mothers received meptazinol (pH 7.23, SD 0.07; PCO2 6.83, SD 1.6 kPa; standard bicarbonate 20.9, SD 4.2 mmol/l). The mean pH and PCO2 in the two treatment groups were significantly different (P less than 0.002) at 10 min but not at 60 min after delivery.

Database: Medline

13. Pethidine compared with meptazinol during labour. A prospective randomised double-blind study in 1100 patients.

Author(s): Morrison, C E; Dutton, D; Howie, H; Gilmour, H

Source: Anaesthesia; Jan 1987; vol. 42 (no. 1); p. 7-14

Publication Date: Jan 1987

Publication Type(s): Comparative Study Randomized Controlled Trial Clinical Trial Journal Article

PubMedID: 3826577

Abstract:A randomised double-blind comparison of pethidine and meptazinol used as analgesics in labour was carried out in 1,100 consecutive women who would normally have received intramuscular pethidine. Pain assessments at 30-minute intervals were made independently by patients and midwives. Maternal and neonatal side effects were noted. The babies' requirements for resuscitation and weight changes in the first 5 days were studied. There was no difference in the analgesia provided by the two drugs; the pattern of side effects was similar, but the incidence of vomiting was greater following meptazinol administration. The babies in the two groups were similar with respect to resuscitation received, weight gains or losses and the incidence of clinical neonatal jaundice. The most striking findings were the poor quality of pain relief experienced by both groups following parenteral analgesics and the high incidence of side effects.

Database: Medline

14. Use of meptazinol in routine obstetric practice in a district hospital.

Author(s): Knights, J

Source: Midwives chronicle; Aug 1986; vol. 99 (no. 1183); p. 182-183

Publication Date: Aug 1986

Publication Type(s): Journal Article

PubMedID: 3637611

Database: Medline

15. Comparative study of meptazinol and pethidine for the relief of pain in labour.

Author(s): Sheikh, A; Tunstall, M E

Source: British journal of obstetrics and gynaecology; Mar 1986; vol. 93 (no. 3); p. 264-269

Publication Date: Mar 1986

Publication Type(s): Comparative Study Controlled Clinical Trial Clinical Trial Journal Article

PubMedID: 3516202

Abstract:A double-blind comparison of pethidine and meptazinol in the relief of pain during labour was undertaken in 205 healthy women. The protocol allowed 100 mg of the test drug to be repeated at intervals of 2 h to a maximum of three doses. It was noteworthy that only 29 mothers were given a second dose of narcotic. Every woman receiving one injection of meptazinol complained of moderate to severe pain after 2 h; 97% of those receiving one injection of pethidine were complaining of moderate to severe pain after 2 h. There was no difference between the two drugs with regard to pain relief or in side-effects both in mother and baby.

Database: Medline

16. A study of the effect of meptazinol on fetal heart rate patterns.

Author(s): Hanretty, K; Whittle, M; McGowan, L

Source: Pharmatherapeutica; 1985; vol. 4 (no. 5); p. 319-321

Publication Date: 1985

Publication Type(s): Journal Article

PubMedID: 4070324

Abstract:A study was carried out in 40 women undergoing labour to investigate the effect of 100 to 150 mg meptazinol intramuscularly, given alone for the relief of labour pain, on fetal heart rate patterns. Patients were monitored continuously using a fetal scalp electrode attached to a fetal monitor, and fetal heart rate patterns recorded on the cardiotocograph. Traces were interpreted for 2 hours preceding and 2 hours after administration of meptazinol using a 12-point scoring system to quantify the variables of baseline rate and variability and the presence or absence of variable or late decelerations. All babies were born live and, except for 1 delivered by emergency caesaraen section under general anaesthesia, none had an Apgar score less than 8 at 1 minute. Analysis of the cardiotocograph traces showed that adverse changes, such as loss of variability, were not significantly associated with the use of meptazinol.

Database: Medline

17. Parenteral meptazinol - international clinical experience

Author(s): Kay B.

Source: Postgraduate Medical Journal; 1985; vol. 61 ; p. 23-26

Publication Date: 1985

Publication Type(s): Article

PubMedID: 4080662

Abstract: Meptazinol is an opioid partial agonist with a potency at a dose of 100 mg similar to that of pethidine, but with a faster onset and shorter duration of action. It is a suitable analgesic for use in the treatment of postoperative, chronic and cancer pain, where its low dependence liability and few prescribing controls are advantageous. Meptazinol has been shown to be effective in the treatment of obstetric pain where it was preferred to pethidine because of its rapid elimination from the neonate. In normal use meptazinol appears to be free from respiratory or cardiovascular depressant actions.

Database: EMBASE

18. Preliminary clinical and pharmacokinetic experiences in the newborn when meptazinol is compared with pethidine as an obstetric analgesic.

Author(s): Jackson, M B; Robson, P J

Source: Postgraduate medical journal; 1983; vol. 59

Publication Date: 1983

Publication Type(s): Randomized Controlled Trial Clinical Trial Journal Article

PubMedID: 6835891

Abstract: Preliminary results on the disposition of meptazinol in the neonate are reviewed. Meptazinol has a half-life of 3.4 hours compared with 22.7 hours for pethidine. In a randomised double blind trial of 100 patients the depressant effects in the newborn of meptazinol and pethidine were compared. There was no difference in the Apgar scores at 1 and 3 minutes. Weight loss and the incidence of neonatal jaundice were less when mothers received meptazinol although these differences did not reach statistical significance. However, the number of infants considered fit for discharge by the 6th day was significantly greater in the meptazinol groups. In 43 cases transcutaneous monitoring of arterial PO2 was carried out for 30 minutes following delivery. Although the mean PaO2 was similar for meptazinol and pethidine, significant variations in the PaO2 of 2.0 kPa or greater and significant neonatal activity as judged by episodes of crying and movement, were recorded in the meptazinol group. The results of the trial suggest that meptazinol may have less depressant effects on the newborn, and may be preferable to pethidine as an obstetric analgesic.

Database: Medline

19. Routine use of meptazinol in labour

Author(s): Nicholas A.D.G.

Source: Postgraduate Medical Journal; 1983; vol. 59 ; p. 52-53

Publication Date: 1983

Abstract: The analgesia success rate (satisfactory to good analgesia) was good in this study. Pain relief is rapid in onset and lasts 45 to 90 minutes. Meptazinol causes very little dysphoria and has no serious side effects. Hypotension does not seem to occur. The condition of the great majority of babies was excellent. In most of the exceptions there were obstetric complications such as fetal distress, cord around the neck, or prolonged second stage of labour. A low level of meptazinol in breast milk and the short half-life in neonate contribute to the low level of drug depression seen in these cases. The results of this study indicate that meptazinol could be used routinely instead of pethidine and may offer advantages in terms of neonatal safety. (A full paper is in preparation).

Database: EMBASE

20. Meptazinol and respiratory depression.

Author(s):

Source: Lancet (London, England); Sep 1983; vol. 2 (no. 8349); p. 576

Publication Date: Sep 1983

Publication Type(s): Letter

PubMedID: 6136732

Database: Medline

21. Meptazinol.

Author(s):

Source: Lancet (London, England); Aug 1983; vol. 2 (no. 8346); p. 384-385

Publication Date: Aug 1983

Publication Type(s): Comparative Study Editorial

PubMedID: 6135879

Database: Medline

22. Routes of meptazinol conjugation in the neonate.

Author(s): Dowell, P S; Pierce, D M; Franklin, R A; Robson, P J; Jackson, M B

Source: British journal of clinical pharmacology; Nov 1982; vol. 14 (no. 5); p. 748-750

Publication Date: Nov 1982

Publication Type(s): Journal Article

PubMedID: 7138758

Available at British journal of clinical pharmacology - from Europe PubMed Central - Open Access

Available at British journal of clinical pharmacology - from Unpaywall

Database: Medline

23. Double-blind comparison of meptazinol and pethidine in labour.

Author(s): Nicholas, A D; Robson, P J

Source: British journal of obstetrics and gynaecology; Apr 1982; vol. 89 (no. 4); p. 318-322

Publication Date: Apr 1982

Publication Type(s): Comparative Study Randomized Controlled Trial Clinical Trial Journal Article

PubMedID: 7041955

Abstract: The analgesic efficacy and safety of intramuscular meptazinol and pethidine in the first stage of labour were compared in a randomized double-blind trial in 358 patients. Pain relief was measured on a verbal rating scale, maternal side effects were recorded and neonatal outcome assessed in the first 24 h. Pain relief during the first hour after injection was significantly greater in the meptazinol than in the pethidine group at 45 and 60 min. Thereafter, there was no difference between the treatments, and the duration of action was approximately the same. Twenty-eight per cent of patients experienced side effects after meptazinol compared with 35% after pethidine. The commonest were nausea and vomiting with a similar incidence in both groups. Most of the neonatal observations revealed no difference between the two drugs, but significantly more babies whose mothers had received meptazinol had an Apgar score of greater than or equal to 8 at 1 min after birth.

Database: Medline

24. Preliminary studies on the disposition of meptazinol in the neonate.

Author(s): Franklin, R A; Frost, T; Robson, P J; Jackson, M B

Source: British journal of clinical pharmacology; Jul 1981; vol. 12 (no. 1); p. 88-90

Publication Date: Jul 1981

Publication Type(s): Journal Article

PubMedID: 7248143

Available at British journal of clinical pharmacology - from Europe PubMed Central - Open Access

Available at British journal of clinical pharmacology - from Unpaywall

Database: Medline

25. A comparison of meptazinol and pethidine for pain relief during the first stage of labour.

Author(s): Nel, C P; Bloch, B; Rush, J M

Source: South African medical journal = Suid-Afrikaanse tydskrif vir geneeskunde; Jun 1981; vol. 59 (no. 25); p. 908-910

Publication Date: Jun 1981

Publication Type(s): Comparative Study Randomized Controlled Trial Clinical Trial Journal Article

PubMedID: 7015539

Abstract: Meptazinol and pethidine were compared in a double-blind randomized trial with regard to analgesia during the first stage of labour. It was concluded that neither drug is effective for sustained pain relief, and that there is no advantage of one over the other. However, neither drug affected maternal condition as reflected by respiratory rate, pulse rate and blood pressure, nor was any detrimental effect noted on the condition of the newborn infant. The critical reassessment of traditional drugs for analgesia in labour is suggested.

Database: Medline

26. Preliminary experience of the use of meptazinol as an obstetric analgesic.

Author(s): Jackson, M B; Robson, P J

Source: British journal of obstetrics and gynaecology; Apr 1980; vol. 87 (no. 4); p. 296-301

Publication Date: Apr 1980

Publication Type(s): Comparative Study Controlled Clinical Trial Clinical Trial Journal Article

PubMedID: 7000166

Abstract: Following an open pilot trial, meptazinol [m(3-ethyl-1-methyl-hexahydro-1-H-azepin-3-yl) phenol hydrochloride] was compared to pethidine in a single-blind study in women requiring analgesia during labour. Meptazinol provided significantly better analgesia than pethidine with similar but possibly less distressing maternal side effects. There were no obvious adverse effects in the newborn.

Database: Medline

Strategy 697145

#	Database	Search term	Results
1	Medline	exp MEPTAZINOL/	187
2	Medline	(Meptazinol).ti,ab	221
3	Medline	(Meptid).ti,ab	4
4	Medline	(1 OR 2 OR 3)	233
5	Medline	((labor OR labour) ADJ2 pain*).ti,ab	2716
6	Medline	exp "LABOR PAIN"/	1071
7	Medline	(5 OR 6)	3180
8	Medline	(4 AND 7)	9
9	Medline	exp "ANALGESIA, OBSTETRICAL"/	3850
10	Medline	(4 AND 9)	5
11	Medline	exp "LABOR, OBSTETRIC"/	45253
12	Medline	(labour OR labor).ti,ab	94952
13	Medline	(11 OR 12)	118998
14	Medline	(4 AND 13)	18
15	Medline	exp "MATERNAL-FETAL EXCHANGE"/	29138
16	Medline	(4 AND 15)	4
17	Medline	exp "INFANT, NEWBORN"/	587102
18	Medline	(4 AND 17)	10
19	EMBASE	exp MEPTAZINOL/	429

20	EMBASE	(Meptazinol).ti,ab	259
21	EMBASE	(Meptid).ti,ab	4
22	EMBASE	(19 OR 20 OR 21)	446
23	EMBASE	((labor OR labour) ADJ2 pain*).ti,ab	2414
24	EMBASE	exp "LABOR PAIN"/	2859
25	EMBASE	(labor OR labour).ti,ab	115503
26	EMBASE	exp LABOR/	34049
27	EMBASE	(23 OR 24 OR 25 OR 26)	127125
28	EMBASE	(22 AND 27)	45
29	EMBASE	exp NEWBORN/	506577
31	EMBASE	exp "PERINATAL MORBIDITY"/ OR exp "NEWBORN RESPIRATORY DISTRESS"/	20079
32	EMBASE	(29 OR 31)	517580
33	EMBASE	(22 AND 32)	12
34	EMBASE	exp "OBSTETRIC ANALGESIA"/	4289
35	EMBASE	(22 AND 34)	27
36	EMBASE	exp "OBSTETRIC PATIENT"/	1679
37	EMBASE	(22 AND 36)	0
38	EMBASE	(obstetric* OR newborn).ti,ab,af	1675489
39	EMBASE	(22 AND 38)	60
41	CINAHL	(Meptazinol).ti,ab	27

42	CINAHL	(Meptid).ti,ab	0
45	EMBASE	exp FETUS/ OR exp "FETUS DISTRESS"/ OR exp "FETUS HYPOXIA"/	193706
46	EMBASE	(22 AND 45)	6