

# **Comparison of the efficacy of Epidural Diamorphine and Fentanyl in combination with Local Anaesthetic for post-operative pain relief.**

## *Background*

Epidural analgesia may be provided by a variety of drugs. Use of epidural local anaesthetic alone may result in excessive motor blockade and epidural opioids alone have no demonstrated advantage over parenteral opioids. However, epidural analgesia combining a low concentration of local anaesthetic with opioid provides better postoperative analgesia than either of the drugs alone and may improve postoperative outcomes.

Despite numerous investigations, the ideal epidural analgesic solution remains controversial. Evidence suggests there is no significant difference between diamorphine and fentanyl for post-operative pain control. A previous audit in 2006 suggested that a combination of 0.1% bupivacaine with 5mcg/ml diamorphine was more effective than 0.1% bupivacaine with 2mcg/ml of fentanyl for epidural patient controlled analgesia.

## *Aim and objectives*

The audit aimed to assess the efficacy of our current epidural drug combination (diamorphine 5mcg/ml and bupivacaine 0.1%) and compare this to an alternative (levobupivacaine 0.125% and fentanyl 4mcg/ml).

## *Method*

50 patients were analysed in each group. All patients receive epidural analgesia via continuous infusion in combination with epidural patient controlled analgesia. Data was collected retrospectively from epidural follow up charts. Numerical pain score was converted to verbal descriptor scale for easy result interpretation. Median pain & worst pain score at rest and movement over 0- 24 hours and 24-48 hours were analysed. Data was also collected in relation to any side effects, requirement of additional top ups and patient satisfaction

## *Main Results*

The results were analyzed using means & percentages. Operations varied from General Surgery, Hepato-biliary, Vascular, Urology and Orthopedics in each group. During the first 24 hours pain scores were comparable in both groups, with most patients having none to mild pain. At 48 hours the fentanyl group had a significantly higher number of patients experiencing severe pain on movement compared to the diamorphine group. There were fewer patients who required epidural top up in recovery in the fentanyl group compared to the diamorphine group. The ward top ups were similar in both groups, as were the side effects except that itch was more prevalent in diamorphine group. Patient satisfaction was same in both groups with majority of patients rated their pain relief as good.

## *Conclusion*

With the prescribed doses, diamorphine appears to be provide better pain control than fentanyl for epidural analgesia in this small cohort of patients. Effects on patient outcome and length of stay remain to be investigated.

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