**Spinal diamorphine: how much is too much?**

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Spinal anaesthesia, discovered accidently by Corning in 1885, has since come a long way. (1)   It has an important role in obstetrics, general surgery, orthopaedics and acute pain. The use of intrathecal opioids is commonplace to augment block duration and as a systemic opiate sparing technique. However, the dose of intrathecal opioids varies greatly between units and even between anaesthetists. Current evidence suggests that there is no clear dose response relationship between intrathecal opioids and onset of postoperative pain with a possible increase in side effects. (2)

As part of ongoing quality improvement, we audit compliance with local hip and knee replacement analgesic protocol; which consists of a single shot spinal (unless contraindicated), paracetamol, ibuprofen, gabapentin, modified released Morphine Sulphate and prn Oramorph. The dose of spinal diamorphine ranged from 100mcg to 500mcg. Considering recent evidence described above, we decided to compare the analgesic and side effect profile of 100mcg compared with 300mcg intrathecal diamorphine.

Twenty-seven patients received 100mcg compared with forty-four receiving 300mcg intrathecal diamorphine over a six-month period. Pain, nausea, sedation and pruritis scores were recorded on days zero, one and two. Catheterization rates, systemic opioid requirements and length of stay were also recorded. Pearson correlation, means and standard deviations, significance testing (unpaired t-tests) and odds ratios were used to compare groups.

In our cohort, there was no added analgesic benefit of using 300mcg compared with 100mcg intrathecal diamorphine. Additionally, there were significantly higher rates of nausea (p=0.007), sedation (p=0.03) and a higher incidence of pruritis (p=0.083). Catheterization rates were slightly higher in the 300mcg group (OR 1.88, 95% CI 0.45 to 7.84).

Although our sample size is small and unbalanced, our interim results agree with published data in that the minimum dose (<300mcg) of intrathecal opioids should be used. (3) Our local protocol will be amended, published and continually reviewed.

References

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