

British Pain Society/Faculty of Pain Medicine (RCA) Consensus Statement on the use of Corticosteroids for Neuraxial Procedures in the UK.

There has been international debate relating to the use of corticosteroids for neuraxial interventions. This has included the publication of conflicting statements which will add to the challenges faced by the pain physician in supporting their clinical decision making. The British Pain Society and the Faculty of Pain Medicine of the Royal College of Anaesthetists established a working group tasked to create a summary for clinicians to inform decision making in this area.

Summary of evidence considered:

- We recognise that evidence in this field is rapidly progressing.
- There have been a number of reported catastrophic neurological complications with transforaminal injections in the cervical region with particulate steroids.
- According to the current evidence, the likely mechanism of such injury is due to the unintended intravascular injection of the particulate steroid causing direct vascular ischaemia of the spinal cord. Particulate steroid induced aggregation of red blood cells may also be a relevant mechanism.^{1,2} In a study using porcine models, all particulate injections into the vertebral artery resulted in catastrophic outcome whereas non-particulate steroid injections resulted in full clinical recovery.³
- Whilst the vast majority of the reported injuries have occurred with transforaminal cervical injections, similar events in the lumbar region from both transforaminal and interlaminar routes of injections are also known to have occurred. From 3 reported case studies of spinal cord infarction following interlaminar lumbar epidural steroid injections all had previously undergone laminectomy below the segments of the injection. 50% of reported complications following transforaminal injection had also had lumbar spine surgery (7 out of 14 cases).⁴
- It is accepted that the risk of such catastrophic neurological complication is likely to be much lower in more caudad regions with non-transforaminal routes of injection. It is postulated that the vascular anatomy may be more favourable in those regions which has led to fewer complications being reported.⁴
- There has been one recent case report of non-particulate steroid administered via a transforaminal epidural lumbar route being associated with ischaemic neurological injury. This suggests that other mechanisms may also be at play.⁵
- We recognise that only a proportion of serious complications are reported in the literature.
- We recognise that other types of injury may also lead to neurological complications including direct neurotoxicity of drugs and of vasospasm secondary to needle trauma
- Imaging can reduce but not exclude all inadvertent intravascular injections or complications.⁴
- We recognise there is sufficient evidence to support the continued use of corticosteroids in epidural injections for the acute relief of symptoms, particularly in the presence of acute radicular pain with disc herniation.⁶

- There is only limited evidence that particulate corticosteroid preparations have better efficacy than non-particulate preparations in the short term. There is no long term data to indicate efficacy of any steroid preparation.
- Some preservative formulations used in steroid preparations may be neurotoxic.

Based on current evolving evidence and mindful of the requirement for fully informed consent that is relevant to the patient, the position of the BPS and FPMRCA working group is:

- Particulate steroids must not be used for transforaminal cervical epidural injections on the basis of the risk of rare but catastrophic complications
- Whilst definitive recommendations cannot be given for the choice of soluble or particulate steroid for injections in interlaminar cervical epidurals, clinicians should be aware that serious neurological complication can still occur.
- Whilst definitive recommendations cannot be given for the choice of soluble or particulate steroid for injections in epidurals undertaken in other areas of the spine (thoracic, lumbar and caudal), clinicians should be aware that serious neurological complication can occur with any route of administration particularly if there is a history of previous spinal surgery.
- Steroid preparations for epidural administration may carry a small risk of neurotoxicity with inadvertent intrathecal injection due to the preservative preparation used. The clinician should carefully consider the formulation used.
- The doctor must follow current GMC guidance on consent and record the discussion process. The discussion should ideally occur on an occasion prior to the procedure as well as at the time of the procedure to allow time for reflection.
- The consent process should include discussion and documentation regarding indications, efficacy, safety and alternative treatments
- The use of corticosteroids in epidural injections is an indication that is outside the marketing authorisation (product license). This information should also be incorporated into the consent process and documented in the medical records.

References

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