

Survey of Anaesthesia Practices for Knee Replacements amongst Consultant Anaesthetists in a Tertiary Referral Orthopaedic Centre



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Introduction

Nuffield Orthopaedic Centre (NOC) is a tertiary referral institution performing limb, pelvis and spine surgery of various complexity. Knee replacements (KR) constitute approximately 10% of the workload amounting to some 1000 unilateral (UKRs), primary, complex primary and revision total knee replacements (TKRs).

With growing appreciation of positive impact of neuraxial anaesthesia [1] and motor-sparing peripheral nerve blocks (MS PNBs)[2] on patient outcomes, we set out to analyse the current anaesthetic practices in our centre.

Aims and Objectives

- To assess the current anaesthetic practice amongst consultants for UKRs, primary TKR and complex primary/revision TKRs in our hospital.
- To review on anaesthesia impact on KR outcomes and compare our practices with recommendations of other major centers and research groups.
- To use the data to formulate sustainable local guidelines for UKR and primary TKR anaesthesia as part of perioperative Enhanced Recovery Pathway (ERP).

Methods

35 consultants with regular commitments at the NOC (experience varied from 1 to 25 years) were invited to complete an electronic anonymous survey and select up to three currently preferred choices of anaesthesia for KRs from a list of some fifteen possible anaesthetic "recipes", either known to be used at the NOC or advocated in the current literature. They were also asked about use of perioperative ERP and postoperative PCA for UKRs and primary TKRs.

Summary of Results

Of the 71% (25/35) respondents, 92% (23) Consultants anaesthetised for KR regularly (i.e. fixed sessions) or sometimes, and 8%(2) - rarely.

For primary TKR (Fig.1), GA + Femoral block + high volume local infiltration analgesia (LA "cocktail") was stated as a preferred technique by 61%; Spinal anaesthesia (SA) without opiates +/- sedation+ LA "cocktail" and SA with opiates - by 35%; GA + Motor Sparing Nerve Block and GA + LA "cocktail" were preferred by 22%. Surprisingly, Sciatic block in combination with Femoral and GA was stated as a preferred option by over 10% of consultants, a higher figure than expected by the authors.

For Complex Primary/Revision TKR (Fig.2), GA + Epidural and GA + Femoral and Sciatic blocks were equally preferred choices: by 48% and 43%, respectively.

For UKR (Fig.3), SA without opiates +/- sedation + LA "cocktail" was the choice of anaesthesia for 52%, GA + Femoral block + LA "cocktail" - 48%.

52% Anaesthetists followed the ERP regularly. 39% Anaesthetists prescribed PCA regularly.

Discussion and Conclusions

Our survey showed very diverse consultants' practice for KRs, with the only clear preference being GA + Femoral nerve in combination with LA infiltration for primary TKR (the type of LA used were not specified). Most anaesthetists preferred one or another regional analgesia modality.

The diversity can be explained by various factors: anaesthetists', patients' and surgeons' preferences, neuroanatomy of the knee, recent - sometimes conflicting - publications [1-4] and local provision for postoperative care.

We hope that, in view of the recent evidence, the use of SA for UKRs and primary TKRs will increase in future.

References

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3. Hebl JR, Dilger JA, Byer DE, Kopp SL, Stevens SR, Pagnano MW, Hanssen AD, Horlocker TT. A pre-emptive multimodal pathway featuring peripheral nerve block improves perioperative outcomes after major orthopaedic surgery. *Reg Anesth Pain Med* 2008; 33: 510-517.
4. PROSPECT recommendations for total hip arthroplasty.

Anaesthetic Choices for primary TKR
(<2hrs, EBL<500ml, patient with no reflux and no anticipated airway problems)

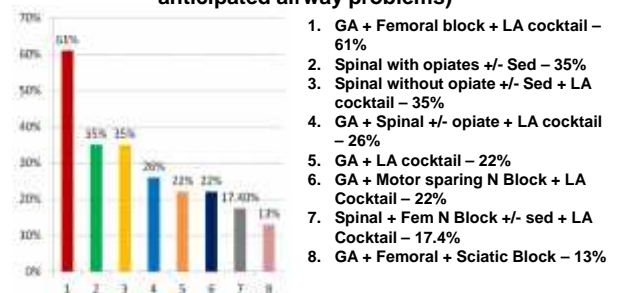


Fig.1

Anaesthetic Choices for complex or revision TKR
(unpredictable duration and blood loss, patient with no reflux and no anticipated airway problems, no infection)

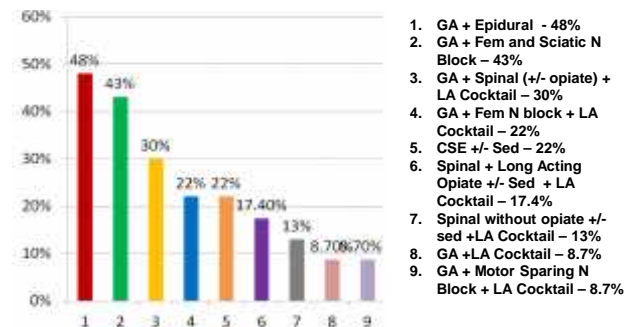


Fig.2

Anaesthetic Choices for unilateral KR
(<2hrs, EBL<500ml, patient with no reflux and no anticipated airway problems)

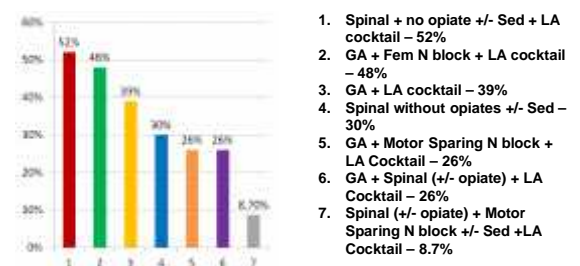


Fig.3

