Safety of Cataract Surgery in patients on Warfarin with a raised INR

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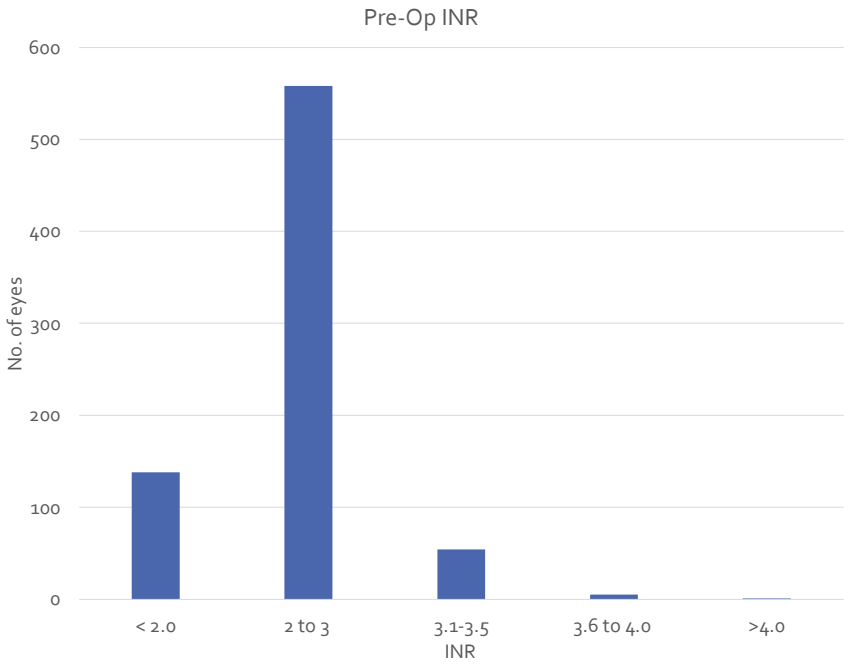
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INTRODUCTION

Warfarin is a commonly used anticoagulant among patients undergoing cataract surgery, with a previous analysis of the Cataract National Dataset showing that 5.1% of patients were on Warfarin. Previous studies have shown that cataract surgery in this patient group is not typically associated with a significant increase in haemorrhagic complications however these studies have advised that that the INR should be within a normal therapeutic range for surgery. There is limited data available on those patients who may have had surgery with an INR above therapeutic range (>3.0 for majority of patients). We have performed a retrospective analysis of our patient cohort to assess whether cataract surgery in patients with a raised INR is associated with an increased risk of haemorrhagic complications.

METHODS

Electronic medical records (Medisoft) for patients who underwent cataract surgery whilst on warfarin therapy at a single centre over a 3 year period (01/01/2015 to 31/12/2018) were analysed. These records were reviewed for pre-operative INR any haemorrhagic complications (e.g. hyphaema, vitreous haemorrhage, suprachoroidal haemorrhage etc.) reported either intra-operatively or post-operatively. The electronic pathology system was used to check the pre-operative INR for each patient.



RESULTS

- **610 patients were identified as being on Warfarin with 812 eyes operated on in total.**
  - 56 eyes had no INR pre-operatively and were excluded.
  - All patients were operated under either general anaesthetic, sub-tenons or topical with intra-cameral anaesthetic.
- **Of the 756 eyes included in the study –**
  - 138 eyes had an INR <2.0
  - 558 eyes had an INR between 2.0 and 3.0
  - 54 eyes had an INR between 3.1 to 3.5
  - 5 eyes had an INR between 3.6 to 4.0
  - Only 1 eye had an INR greater than 4.0 (4.3)
  - Mean INR in patients with an elevated INR was 3.28 (Range 3.1-4.3)
- **No haemorrhagic complications, intra-operatively or post-operatively, were identified among the operated eyes irrespective of their INR.**

CONCLUSION

1. Cataract surgery in patients taking warfarin within a therapeutic range does not significantly increase the risk of haemorrhagic complications. This supports the findings of previous studies.
2. Cataract surgery in patients whose INR is between 3.1 ad 3.5 was not shown to increase the risk of haemorrhagic complications in our patient cohort.
3. Limited data exists for patients whose INR is greater than 3.6 with only 6 patients in our study, none of which had any complications. Further research is required to determine if INRs in these higher ranges place patients at an increased risk or not.