Orthostatic Retractor Positioning Reduces Operating Time And Post-Operative Inflammatory Response During The Learning Curve Of Anterior Approach THA

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INTRODUCTION

Handheld retractor placement (HHRP) is prone to repetitive repositioning. This could lead to muscle damage especially during a procedure with a steep learning curve. To minimize retractor repositioning during the learning curve of direct anterior approach (DAA) total hip arthroplasty (THA), we used a table mounted orthostatic retractor placement (ORP) device (Figure 1).

PURPOSE

To investigate whether ORP would reduce the extent of muscle damage, OR-time and post-operative inflammatory response during the learning curve of DAA THA.

MATERIALS AND METHODS

43 Patients were randomly allocated to be operated by 1 expert surgeon who used ORP and 2 trainee surgeons who used HHRP or ORP. Blood levels of Creatinine Kinase (CK), C- Reactive Protein (CRP), Hemoglobin (Hb), Lactate Dehydrogenase (LDH) and Erythrocyte Sedimentation Rate (ESR) were measured at 1 hour pre- and 24 and 48 hours post-operatively.

RESULTS

The mean OR-time was 17 minutes longer in the HHRP (67’) than the ORP trainee cohort (50’) (p<0.05).

Post-operative CRP levels were significantly higher in the HHRP cohort at 24h (p<0.05) and 48h post-operatively (p<0.05) (Figure 2).

The post-operative Hb-levels were significantly lower in the HHRP cohort at 24h (p<0.05) and 48h (p<0.05) post-operatively (Figure 3).

Post-operative ESR levels were significantly higher in the HHRP cohort 48h post-op (p<0.05) (Figure 4).

No significant differences were found for the CK and LDH levels at any time postoperatively.

CONCLUSION

The use of an orthostatic retractor placement device allows for reducing the OR-time, post-operative blood loss and post-operative inflammatory response during the learning curve of DAA THA.

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For more information on the surgical technique and OR-set-up please visit www.easy-concept.com

The protocol was approved by the Medical Ethical Committee of the hospital (Eudract/B nr: B37 1201 383 189) and one or more authors have disclosed potential conflict of interest (http://www7.aans.org/education/disclosure/search)