C-Reactive Protein After Hip Surgery for Cerebral Palsy:
CRP as a screening test for at-risk patients

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INTRODUCTION AND OBJECTIVES

C-reactive protein is an acute phase protein and marker of inflammation.

The primary objective of this project is to determine the normal rise in CRP after hip surgery in cerebral palsy as this has not been investigated in the past.

The secondary aim was to determine if patients who developed complications varied in their CRP response.

METHODS

Between September 2012 and December 2014, 100 patients underwent surgery for neuromuscular hip subluxation or dislocation.

CRP levels were taken from all patients 2 weeks prior to surgery and within 24 hours of surgery. Subsequent blood tests were taken according to clinical need, with CRP added.

Subgroup analysis was performed dividing patients into those who had developed complications and those who hadn’t.

RESULTS 1

CRP rises to a peak of 73 on day 3 post-op then begins to fall

RESULTS 2

Subgroup analysis:

17 patients developed complications. 15 respiratory tract infections, 1 urinary tract infection and one wound infection.

Patients who develop complications show a steeper rise in CRP with higher values on day 1 and day 2 (p<0.05), often before showing symptoms.

A CRP of over 24 on day 1 postop (within 24 hours of procedure) has a sensitivity of 70% and specificity of 88% for subsequently developing a complication.

A CRP of over 64 on day 2 postop gives a sensitivity of 77% and specificity of 91% that the patient is developing a complication.

CONCLUSIONS

Measuring the CRP is common practice in post operative patients, however its value can be meaningless if the normal value is not known.

This is the first time the normal values for CRP have been plotted for this patient population.

Our results show that if a patient has a high CRP on day 1 postop they are at risk of subsequently developing an infectious complication.

CRP can be used as a screening test in the early post-operative period to identify at-risk patients.

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