161: Labour epidurals and blood tests

Introduction

NICE guidelines and RCOA audit standards recommend that following a labour epidural request the anaesthetist should attend within 30 minutes in more than 80% of patients and within an hour in 100% apart from in exceptional circumstances\(^1\). One of the common reasons found for a delay in siting an epidural is to await blood test results\(^2\) that are often not available in our experience in low risk parturients. The likely reason for this request is to detect possible contraindications to the epidural such as a low platelet level which occurs in 10% of obstetric patients\(^4\). Local guidelines frequently state the contraindications of coagulopathy but are often unclear regarding how recent the blood test should be prior to siting the epidural\(^5\). Other countries including the USA have national guidance on the necessity of these tests\(^6,7\) but these are lacking in the UK. This could potentially lead to unnecessary delays to the parturient receiving adequate analgesia.

Though surveys have been carried out on this area in other countries\(^8,9\) none have been published in the UK to our knowledge. We are interested to know the practice of obstetric anaesthetists in the UK regarding the necessity and timing of blood tests prior to the siting of a labour epidural in low risk patients.

Method

An OAA approved electronic survey (Survey No.161) was sent to all OAA members in the UK from April 2015.

Results

A completed questionnaire was received from 42% of OAA UK members; this excludes those who did not complete the entire survey. Of the respondents 76% were consultants, 19% were trainees and 5% were SAS grade.

60% of respondents were aware of guidelines within their own department regarding the necessity of blood tests prior to labour epidural insertion. Out of the remaining 40%, that were unaware of local guidelines on this matter, 80% thought that having guidelines would be useful.

The participants were given four different scenarios and asked which blood test results they would routinely require prior to siting a labour epidural.

Low risk parturient

74% of anaesthetists would not routinely require any blood test results. The most common blood test they would require is a full blood count (FBC) result with 16% of anaesthetists requesting this prior to siting a labour epidural. Other tests were less frequently required with 1% requiring a clotting result, 0.15 requiring a liver function test (LFT) result, 0.3% requiring a C-reactive protein result and 0.7% requiring a urea and electrolytes (U&E) result.
**Pregnancy Induced Hypertension**

For a patient with pregnancy induced hypertension the most common result required was a FBC with 89% of respondents requesting this. 57% of respondents would require a clotting result, 35% would require a LFT result, and 40% would require a U&E result. Only 7% would not require any blood test results before siting a labour epidural.

**Pyrexia**

For a patient with pyrexia 83% of respondents would require a FBC result. 39% of respondents would require a CRP, 20% would require a clotting result, 16% would require U&E results and 7% would require LFT results. 11% of respondents would not require any blood test results before siting an epidural.

**Prolonged Rupture of Membranes**

In a patient with prolonged rupture of membranes 67% of anaesthetists would require a FBC result, 29% would require a CRP result, 19% would require a clotting result, 11% would require a U&E result and 5% require a LFT result. 22% of anaesthetists would not require any test results prior to siting a labour epidural.

When requested to place an epidural for labour analgesia in a low risk, apyrexial patient who has had no FBC taken in pregnancy 18% of respondents would always check a FBC result prior to placing an epidural. 9% of respondents would frequently check, 32% would occasionally check and 41% would never check the FBC result.

In a low risk, apyrexial patient with a normal FBC during pregnancy requesting an epidural for labour analgesia 44% of respondents considered a booking FBC result as adequate. 5% of respondents considered a FBC within the last 6 months as adequate, 25% considered within the last 3 months as adequate, 18% considered within the last month as adequate and 2% within the last 2 weeks as adequate. 3% of respondents required a FBC result from within the last week, 1% required a FBC from within the last 48 hours and 2% within the last 24 hours.

When asked how often they delay siting an epidural to await blood test results 43% chose never, 27% less than once a year, 23% less than once a month, 4% 1-2 times a month, 2% 3-4 times a month and 1% more than once a week.

**Conclusion**

More than half of our respondents already have local guidelines on blood test requirements prior to labour epidural insertion and this is to be encouraged as 80% of respondents who do not have local guidelines would find these useful. There is no clear consensus of opinion from our study which blood tests are needed when. For a low risk parturient, with no concerning features, 74% of respondents do not routinely require any blood tests prior to siting a labour epidural. This is in line with the recent American Society of Anaesthesiologists’ guidelines and Belgian guidelines that agree that the decision of whether a platelet count is required should be individualised according to the patient’s medical and obstetric history and clinical examination but is not routinely required\textsuperscript{6,7}.\relax
If a FBC is required prior to siting an epidural in a low risk woman, but there are no results from the current admission, the timing for what would be considered an adequate prior FBC result ranged from: bloods at time of booking, to within the last 24 hours. For the 16% of anaesthetists that require a FBC result, in a low risk parturient prior to epidural siting, this timing would need to be clarified at a local level to help prevent unnecessary delays.

When the patient has other complicating factors such as pregnancy induced hypertension, pyrexia or prolonged rupture of membranes again the most common blood test required prior to siting an epidural is full blood count, but there is no clear consensus on which other bloods are required and this should be guided by patient history and examination.

In conclusion there is no universal opinion of which blood tests should be done prior to siting a labour epidural. We advise a medical and obstetric history is taken looking for history suggestive of clotting abnormalities or signs of complicating obstetric factors such as infection, or pre-eclampsia. If a woman is found to be ‘low risk’ the majority of our OAA respondents suggest no blood tests are required, and this is the similar to published national guidelines from other countries and to a survey of Canadian anaesthetists in 2000. If there are risk factors from the clinical history or examination which could lead to a complication from neuraxial anaesthesia then further investigations should be undertaken to help assess this risk. The blood tests undertaken in these circumstances we believe should be decided at a local level but we hope our survey will help to inform practice.

References


2 RCOA. Raising the standard-A compendium of audit recipes. Section 8.6-Response time for the provision of intrapartum anaesthesia and analgesia. RCOA, London 2012 (http://www.rcoa.ac.uk/document-store/audit-recipe-book-section-8-obstetrics-2012)


5 OAA. Clinical guidelines: Regional analgesia. http://www.oaaanaes.ac.uk/ui/content/content.aspx?id=190 (accessed 15/03/16)

