Regional Variance in the Investigation of Prolonged Jaundice: The Need for a Standardised Approach

Background

Paediatric trainees in Northern Ireland perceive variation in the investigation of infants with prolonged jaundice. With national guidance from NICE and BSPHGAN we feel there should be a unified, regional Northern Ireland approach to ensure all infants achieve the appropriate standard of care. 1,2

Objectives

To identify the first-line investigations performed in infants presenting with prolonged jaundice among paediatric training units in Northern Ireland and examine variation in practice.

Methods

We conducted a retrospective, multi-centre cohort study in the five main paediatric training units in Northern Ireland. A trainee and consultant ambassador were identified in each unit to facilitate data collection. Cases were identified from hospital records and included infants referred with prolonged jaundice over a three-month period (October to December 2020). 20 patients were randomly selected from this cohort with case notes and electronic laboratory results reviewed. A bespoke electronic data collection proforma was created and included gestation, method of feeding, referral source, clinical presentation, investigations performed and overall diagnosis.

All hepatology patients in Northern Ireland are managed by the Birmingham liver unit. Their ‘Yellow Alert’ prolonged jaundice protocol recommends initial clinical assessment and investigations.

Results

106 patient records were reviewed, of which 16 were identified by the assessing clinician as not jaundiced. This left a study population of 90 infants.

Health visiting teams were the largest referrers (44%) followed by midwives (13%) and general practitioners (4%). The referral source was unknown in 36% of cases. The majority of cases were assessed between 0900–1700 (97%). Paediatric advanced nurse practitioners assessed 48% of cases with ST1–2 paediatric doctors assessing 24%. The mean age at review was 15 days old. 88% of cases were term infants. The mean gestational age was 37+6 weeks. 58% of the infants assessed were breastfed, 25% formula fed. 14% were combination fed, method of feeding was unknown for 3%.

Only one infant was described as ‘unwell’ at the time of assessment, presenting with obstructive symptoms and subsequent diagnosis of biliary atresia. 42% of cases were attributed to breastfeeding associated jaundice, 32% physiological jaundice. No overall diagnosis was documented in 24% of cases.

All 90 infants had a split bilirubin performed. 13 different variations of blood tests were performed with 90% getting a full blood count, 67% receiving liver function tests, 61% had thyroid function test and 32% having electrolytes checked. 30% of these infants also had a urine culture.

7% of infants in Northern Ireland followed the Birmingham ‘Yellow Alert’ protocol for their initial prolonged jaundice investigation. 3

Conclusions

There was demonstrable variance amongst the investigation of infants with prolonged jaundice in Northern Ireland.

Our findings suggest that following the ‘Yellow Alert’ initial protocol would have identified the one pathological jaundice whilst reducing investigations required in the vast majority of infants with breastfeeding/physiological jaundice.

A regional guideline is being developed. Implementation of a unified approach will benefit patients, by reducing additional investigations and paediatric medical staff by ensuring a consistent regional approach. This will help further minimise the time and medic-economic burden on the health service.

British Society of Paediatric Gastroenterology, Hepatology and Nutrition

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References

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