and rapid response to any evidence of vascular compromise with immediate line removal. Smaller babies and babies with other co-existing causes of impaired limb perfusion appear to be at highest risk of injury and the risks may outweigh the benefits in these babies.

British Society of Paediatric Gastroenterology, Hepatology and Nutrition

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REVIEW OF DIAGNOSIS AND MANAGEMENT OF COELIAC DISEASE IN A DISTRICT GENERAL HOSPITAL IN THE NORTH WEST (AUDIT)

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Background The guidance for Coeliac Disease (CD) has evolved over the last few years. The ESPGHAN guidelines from January 2020 state that HLA typing is not mandatory. Asymptomatic and symptomatic children will require the same diagnostic approach where biopsy is not required as long as high serological markers are confirmed.

This change will significantly help in improving diagnosis of undiagnosed cases and in diabetic children with a positive screen.

Objectives

1. To review the management of patients and compare it with the latest ESPGHAN/BSPGHAN guidelines.
2. To review time to confirmed diagnosis from the start of the symptoms.
3. To look at the provision of Gluten-free products at schools and Primary Care services.

Methods Retrospective data collected from the Coeliac database from January 2018 till November 2020 in a District General Hospital with provision for a dedicated Coeliac Clinic supported by a Specialist Dietician. We reviewed the presenting symptoms, methods of confirmation of CD, time duration from onset of symptoms till diagnosis, provision of gluten-free meals at schools, and availability of gluten-free products on prescription.

Results 35 patients were diagnosed with CD, 31 were symptomatic and 4 were asymptomatic.

27/31 of the symptomatic patients had high-level tTG (>10 times the upper limit), 20 had positive EMA and HLA DQ2/DQ8 for a confirmed diagnosis. The two negative EMA were referred for biopsy.

Five had HLA typing, no EMA but had had high tTG on two separate occasions which confirms the diagnosis.

Four symptomatic patients with low tTG<10x, had biopsy confirmation. 4 asymptomatic patients had high tTG and +ve EMA.

Of 28 patients referred from primary care, Seven were screened and referred with symptom duration of 4–12 months. Another 7 were diagnosed through screening due to positive family history or type1 Diabetes Mellitus. Fourteen cases had no specific duration of symptoms recorded. The remaining seven were diagnosed by hospital paediatricians due to different presentations.

Most parents stated that they were providing a packed lunch box even if the school provided some gluten-free meals as the menu choice lacked variety. Patients with Type 1 diabetes found a packed lunch easier for carbohydrate counting. Parents felt tailor-made menu recommendation from the dietician to the school would be beneficial for families and the school.

Conclusions We thus identified that 88.5% of patients had met the criteria for the diagnosis of CD as per 2015 guidelines, but if 2020 guidelines were applied all the patients would have met the criteria.

Recommendations:

1. Identifying the duration of time needed for the child to be screened will help to raise awareness within primary care practice. This will be audited in the future.
2. There is a large knowledge gap in schools about CD and the importance of convenient access to gluten-free meals in enhancing compliance with gluten-free food in children. Offering tailor-made presentations to the local schools will address this issue. A further review to identify if a similar knowledge gap exists in schools regionally is planned.

British Association of Perinatal Medicine and Neonatal Society

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ROLE OF OXYGEN SATURATION HISTOGRAM PROFILES IN PREDICTING HYPOXEMIA AND HYPEROXEMIA IN PREMATURE INFANTS

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Background Supplemental oxygen is the commonest ‘drug’ used in the NICU; goals of therapy is to maintain normoxia whilst minimising hyperoxemia and hypoxemia.

Objectives To determine the percentage of time preterm infants, spend with oxygen saturation (SpO₂) <90% and >95%, and to assess whether 4-hour SpO₂ histograms are predictive of 24-hour SpO₂ histogram profiles.

Methods This prospective audit reviewed 100 SpO₂ histogram profiles for 60 preterm infants (birth gestation between 23+0 and 33+6 weeks) admitted to the NICU, requiring invasive and non-invasive respiratory support, at different points of their neonatal course, between 01/01/2020 to 01/11/2020. Pre-term SpO₂ target range within this NICU is 90–95%. We collected SpO₂ histogram data from bedside Phillips monitors at 5% intervals displaying the percentage of time spent in SpO₂ ranges, at 4-, 8-, 12- and 24-hour intervals.

Results Mean birth gestation was 26.8 ± 2.4 weeks and mean corrected gestational age at the time of the study was 30.4 ± 2.5 weeks. Twenty preterm infants required conventional mechanical ventilation, 28 CPAP, 26 HFNC, 14 low flow oxygen and 12 had no respiratory support at the point of the study.

Table 1 shows preterm infants spend substantial amounts of time outside of their SpO₂ target range; hyperoxemia was especially marked. Infants <27 weeks versus infants >27

Abstract 459 Table 1 Median (inter-quartile range) percentage of time preterm infants spend outside SpO2 target range

Percentage of time preterm infants	4 hours	8 hours	12 hours	24 hours
<34 weeks spent with SpO2 <90%	17 (8–24)	18 (10–27)	17 (10–24)	16 (11–23)
<34 weeks spent with SpO2 >95%	49 (32–74)	50 (36–75)	52 (36–73)	53 (35–72)
<27 weeks spent with SpO2 <90%	19.5 (14–32.5)	21.5 (14–32)	20 (13–30)	20 (14–32)
<27 weeks spent with SpO2 >95%	58.5 (32–74)	60.5 (40–76)	58.5 (38.5–73)	57.5 (37–72)
<28 days spent with SpO2 <90%	13 (4–20)	14 (3–22)	13 (4–20)	14 (8–20)
<28 days spent with SpO2 >95%	38 (26–77)	46 (33–74)	41 (36–74)	48 (30–72)

weeks spent more time with SpO2 <90% at 4-, 8-, 12- and 24-hour histogram reviews ($p < 0.001$); there was no significant difference in time spent with SpO2 >95%. Infants >28 days spent significantly more time with SpO2 <90% compared to infants <28 days at 4-, 8-, 12- and 24-hour histogram reviews ($p < 0.05$); there was no significant difference in time spent with SpO2 >95%. Ventilated infants spent significantly more time with SpO2 <90% compared to infants on other modes of respiratory support ($p < 0.001$). There were strong correlations between 4-hour and 24-hour histograms for both hypoxemia and hyperoxemia, with R2 values of 0.7 and 0.8 respectively.

Conclusions Maintaining normoxia for preterm infants is challenging, with substantial amounts of time spent outside of the SpO2 target range. There is strong correlations between 4-hour and 24-hour histograms, which could help in assessing a preterm infants' response to changes in respiratory management.

British Paediatric Allergy Immunity and Infection Group

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REVIEW OF PAEDIATRIC FOOD CHALLENGES: COULD MORE ALMOND AND TUNA CHALLENGES BE SAFELY PERFORMED AT HOME?

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Background Clinicians use serum immunoglobulin E (IgE) and/or skin prick test (SPT) to help decide whether a child is suitable for a food challenge. Performing a food challenge (FC) or supervised feed (SF) is the gold standard for a definitive diagnosis of type 1 food allergy. Food challenges are labour intensive and our unit currently has long waiting lists for food challenges, exacerbated by the COVID 19 pandemic. This study aims to determine if the current thresholds for home introduction can be altered.

Objectives

1. To evaluate the reaction rate, and the severity of reactions, of tuna and almond challenges performed in our hospital.
2. To use results collected to examine whether the thresholds for home introduction of both tuna and almond should be reviewed.

Methods Retrospective data analysis of tuna and almond challenges performed in the Paediatric Allergy Service at St George's Hospital. Electronic medical records were reviewed of all patients who underwent an oral food challenge between

April 2018 to October 2020 at St George's Hospital. Clinical history, results of SPT and specific IgE to tuna and almond and the outcome of the challenge were extracted from the hospital database.

Results Tuna

14 children underwent a tuna food challenge. None were observed to have a positive result. One child had an inconclusive challenge as the final sample was refused; prior to this the child did not experience any signs of an allergy reaction. All these children had a known allergy to other fish.

Almond

77 children underwent an almond only challenge; 8% (6) of these were supervised feeds, the other 92% (71) were food challenges. 8% (6) children were observed to have a positive almond challenge. One child had an inconclusive challenge as the final sample was refused; prior to this the child did not experience any signs of an allergy reaction.

50% (3) of children with a positive challenge were managed with cetirizine alone, at the correct dosage for age. The other 3 children complained of mild symptoms which resolved with no treatment.

Conclusions No children had a positive tuna challenge and the thresholds for home introduction of tuna could be reviewed and relaxed.

96% of children who had an SPT less than 2mm tolerated the almond challenge. For those that reacted, all reactions observed were mild to moderate. The threshold for home introduction of almond could also be reviewed and relaxed.

Association of Paediatric Emergency Medicine

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DOES HAVING SIMULATION DEBRIEFS RUN BY HUMAN FACTOR EXPERTS IMPACT LEARNERS UNDERSTANDING

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Background During the covid pandemic, we were fortunate enough to be joined by airline pilots through Project Wingman. As we are aware that pilot training is often gold standard for human factors training, we utilised this rare opportunity and formulated a project working alongside them looking at the impact debriefs by pilots could have on simulation training, focusing on human factors. In simulation, we often focus on clinical learning, whereas research shows that the majority of near miss and never events, which