only provided risk factors leading to SIDS. Though avoidance of these risk factors has led to substantial reduction (80%) in the rate of SIDS over last 2 decades, it is still the leading cause of death in infants between four weeks and 6 months of age. The most recent data provided by Irish central statistics office reports 14 deaths (0.21 deaths per 1000 live births) in year 2014. We aimed to find out the awareness of the risk factors leading to SIDS amongst mothers who delivered at Mullingar Regional Hospital.

Methods A prospective assessment was performed by distributing multidimensional questionnaire to the women admitted in postnatal ward following birth of their baby in Mullingar Regional Hospital, Ireland. Anonymously collected data was analysed using SPSS2 software. Regional hospital ethical committee approved the study.

Results One hundred two participants were included in analysis. 9.6 percent ($n=9$) participants had never heard of SIDS. Of those who had, 46% (43/93) and 54% (53/93) have heard it from healthcare providers and media respectively. Major risk factors identified by number of participants were; prone sleeping position (80%, 75/93), overheating of the baby (91%, 85/93), Soft bedding (90%, 84/93), bed sharing of infants (69%, 65/93), Maternal smoking during pregnancy (60%, 56/93), Smoking around babies environment (58%, 54/93) and maternal alcohol intake during pregnancy (56%, 53/93). 20% participants failed to identify prone sleeping position as the risk factor. A significant number of participants were unaware of other major risk factors such as smoking during pregnancy, smoking around baby and bed sharing with baby. 100% of the participants wanted more information about SIDS. Televised campaign (68%, 70/102) and reading materials (56%, 58/102) were the 2 most preferred method of delivering SIDS information to the participants. 66% (68/102) participants wanted the information delivered as part of prenatal education and further 29% (30/102) wanted it before discharge from the post-natal ward. 53.9% (55/102) and 31% (32/102) participants opted midwife/maternity nurses and paediatrician respectively as the person to deliver information about SIDS.

Conclusions This study concludes that there is a wide gap in knowledge about risk factors for SIDS and almost all participants felt they need more information. We hope implementing methods to narrow this knowledge gap would further reduce the incidence of SIDS.

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ALTERED TOLL LIKE RECEPTOR 2 (TLR2) SIGNALLING IN CHILDREN WITH DOWN SYNDROME

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10.1136/archdischild-2019-epa.32

Background Toll like receptors (TLRs) are key in initiating innate immune responses. TLR2 is crucial in recognising lipopeptides from gram positive bacteria and is implicated in chronic inflammation. Children with Down syndrome (DS) are prone to infections from these pathogens and have an increased risk of autoimmunity. Sparstolonin B (SsnB) is a

TLR antagonist shown to reduce cytokine production and improve outcomes in sepsis. We hypothesized that TLR2 signalling may be anomalous in children with DS and contribute to their clinical phenotype.

Aims We aimed to evaluate TLR2 pathways in 3 ways; by determining the expression of TLR2 on the surface of neutrophils, monocytes, and their subsets; examine gene expression of key regulatory proteins involved in TLR signal propagation, MyD88, IRAK4, and TRIF; and lastly to determine cytokine production at baseline and following immunomodulation with pro-inflammatory stimuli (LPS, Pam3Csk4) and the anti-inflammatory agent SsnB.

Methods Whole blood was collected from children with DS and age matched controls. Samples were treated with lipopolysaccharide (LPS) 10ng/ml, Pam3Csk4 (5ng/ml), SsnB (10μM) or in combination. TLR2 and CD11b expression on neutrophils and monocytes was evaluated by flow cytometry. RNA was isolated from Trizol[®], cDNA was synthesized and then evaluated by quantitative PCR for expression of MyD88, IRAK4, and TRIF. A panel of pro and anti-inflammatory cytokines were evaluated using the MSD[®]MULTI-SPOT assay system from Mesoscale (MSD Diagnostics, USA). Statistical analysis employed unpaired t-tests, ANOVA, analysed using GraphPad Prism and FloJo software.

Results Children with DS ($n=20$) and controls ($n=15$) were recruited. TLR2 expression was significantly raised on neutrophils ($p=0.02$), total monocytes ($p=0.05$), intermediate monocytes ($p=0.02$) in children with DS compared to controls. At baseline the expression of MyD88 was significantly lower ($p=0.001$), and TRIF significantly raised in children with DS ($p\leq 0.0001$). The TLR antagonist SsnB was effective at reducing TLR2 and CD11b expression and abrogating cytokine production in both cohorts.

Conclusion TLR2 pathway is dysregulated in DS. There is greater expression of TLR2 on the surface of neutrophils and monocytes. Downstream signalling is altered with reduced MyD88 and increased expression of TRIF, which may represent compensatory upregulation of MyD88 independent pathways. This altered innate immunity may contribute to chronic inflammation in DS. SsnB attenuates pro-inflammatory mediators and could be of therapeutic benefit.

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EVALUATING THE QUALITY OF HIP SURVEILLANCE RADIOGRAPHS IN CHILDREN WITH CEREBRAL PALSY

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10.1136/archdischild-2019-epa.33

Background Hip dislocation can seriously affect the quality of life of children with cerebral palsy. Regular radiological surveillance is an important part of the management of cerebral palsy, but can be challenging, due to the nature of the condition.

Objectives To evaluate the technical quality of hip surveillance radiographs of children with cerebral palsy and to assess the suitability of the 'Hip Screen' phone application to be used in measurement of migration percentage.

Materials and methods 100 radiographs of patients undergoing hip surveillance due to a risk of hip dislocation caused by cerebral palsy. Pelvic rotation and inclination were assessed using the standards recommended by the literature. Migration