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Immunoprophylactic failure in children

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Objectives:

To evaluate the prevalence and factors associated with the failure of immunoprophylactic Hepatitis B vaccines.

Materials and Mehtods:

A prospective study was conducted from March 2018 to March 2021. A total of 79 children of hepatitis B surface antigen (HBsAg)-seropositive mothers with known HBeAg status were enrolled. Twenty-seven (34.2%) and 52 (65.8%) children were born to HBeAg-seropositive and HBeAg-seronegative mothers, respectively. Neonates received both the HB vaccine and HBIG within two hours post-birth followed by four subsequent HB vaccinations at ages 1, 2, 4, and 6 months according to Thailand's policy. HBsAg and Anti-HBs were evaluated at ages 9–12 months. Demographic and virological markers (HBsAg, anti-HBs Ab, HBeAg, anti-HBe Ab, and HBV viral load) were included.

Results:

Four children (5%) with HBeAg-seropositive mothers and HBV DNA levels >108 IU/mL (14.8 %) were defined as immunoprophylactic failures based on HBsAg-seropositivity. One developed acute liver failure. Two HBeAg-seropositive mothers with high viral load had histories of irregular medical (Tenofovir) intake. There was no statistical difference between median HBsAg level in HBeAg-seropositive (1,554 IU/mL, range: 1,157-2,186 IU/mL) and seronegative mothers (1,129 IU/mL, range: 891-1219.5 IU/mL). In immunoprophylactic failures children, they had higher median level of HBsAg level (1,760 IU/mL, range: 1,657-2,286 IU/mL) than immunoprophylactic success group (722 IU/mL, range: 364.5-1,749.5 IU/mL) without statistically significant. In immunoprophylactic success group, nearly total of them had anti-HBs Ab level above 1,000 mIU/mL.

Conclusion:

Immunoprophylactic failure in children also occurred even with effective immunoprophylactic protocols, especially those with HBeAg-seropositive mothers and high HBV DNA levels. Inadequate treatment may be one of the reasons for this failure. Novel strategies and large number of cases for further vertical transmission prevention should be considered.

Recent Publications

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Biography

Assistant Professor Busara Charoenwat is lecturer and consultant at Pediatric Gastroenterology and Hepatology, Department of Pediatrics, Division of Gastroenterology and Hepatology, Faculty of Medicine, Khon Kaen University, Khon Kaen, Thailand. She is member of Asian Pan-Pacific Society for Pediatric Gastroenterology, Hepatology and Nutrition (APPSPGHAN)

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Physiotherapeutic approach in treatment of flatfoot (pes planus) in children

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Josip Juraj Strossmayer University of Osijek, Croatia

The foot is a complex structure of the human body whose importance in movement is underestimated until one of its components ceases to function properly. A common abnormality of the foot and ankle complex in children is a flatfoot (lat. pes planus). The flatfoot has two shapes: flexible and rigid flatfoot. In most children, deformity of the flexible flatfoot does not cause any clinical symptoms and therefore does not require treatment, but if the child has a symptomatic or rigid flatfoot, it should be carefully examined and treated appropriately. Since the types of flatfoot differ according to the way they deform and develop and the existence or non-existence of symptoms, it is very important to know how to properly and adequately treat each type of flatfoot. The aim of this paper is to provide an overview of the evidence on the treatment of flatfoot in children and to try to answer the question of what is the current evidence on the treatment of flatfoot in children. A review of the available literature concludes that despite the fact that there are numerous studies on different ways of treating flatfoot, the evidence is still incomplete and does not allow for firm conclusions to be drawn about a number of common approaches.

Keywords:

children; flatfoot; foot deformation; pes plano valgus; pes planus; treatment.

Biography

Nikolina Lazić, mag.physioth., graduated from the Faculty of Dental Medicine and Health Osijek 2019. She has been working at the Faculty of Dental Medicine and Health Osijek for many years, but since 2021 she has been working as an assistant at the Department of Clinical Medicine. Participates in the teaching of Physiotherapy in Orahovica in courses such as Physiotherapy Skills, Physical Factors in Therapy and Clinical Practice.

Recent Publications

1. Biology (Basel). 2022 Jan; 11(1): 20.Published online 2021 Dec 24. The Association between Circadian Clock Gene Polymorphisms and Metabolic Syndrome: A Systematic Review and Meta-Analysis; doi: 10.3390/biology11010020

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Knowledge, attitude and practice of breastfeeding and weaning among mothers of children aged two years and below in a low socio-economic area in Khartoum locality, Sudan, 2020-2021

Rahma Abdelseed

University of Khartoum, Sudan

Background:

Breastfeeding is the gold standard of infant and young child feeding and an essential factor for their health and overall well-being.

Objectives:

This study aims to assess the knowledge, attitude and practice of breastfeeding and weaning among mothers of children aged two years and below in a low socio-economic area in Khartoum locality to explore the effect of socio-demographic.

Methods and patients:

A community-based cross-sectional study was conducted on 196 mothers of children of 2years of age and below. Mothers were selected from Soba station area using systematic random sampling.

Results:

Around 53% of participants had good knowledge on breastfeeding and weaning, and 60% of respondent had positive attitude towards breastfeeding and weaning. With regards to practice; breastfeeding initiation during the first hour was practiced by 94%, approximately 8% of participants had given pre-lacteal feed, colostrum feeding was done by 86.7%, around 22% of women fed their child from one side until the whole breast is emptied out, 41% of mothers practicing breastfeeding on demand, 45% mothers had practiced or were currently practicing exclusive breastfeeding, almost 29% started introducing complementary food after the age of 6 month, and the most common types of complementary food introduced were boiled vegetables (94%). Socio-economic status significantly associated with poor knowledge were age below 25 years (p= 0.007), primary education and below (p= 0.000) and mothers working in marginal business (p=0.008). While negative attitude was significantly associated with primary school education and below (p =0.04) and income of < or =10 000 Sudanese pounds per months (p =0.05). Mothers on marginal business jobs were more likely to have poor knowledge when compared to employed women (OR= 7.3, p 0.034). Those of primary education and below were likely to have poor knowledge than those with education level of secondary school and above (OR= 4.8, p= 0.000). Whereas, those younger than 25years were more likely to have poor knowledge than older mothers (OR=2, p 0.026). Mothers who delivered at home had lower knowledge levels as to those who gave birth in a health institute (OR=2, p=0.019).

Conclusion and recommendation:

There is a need for mass education campaigns to promote optimal breastfeeding and weaning practices coupled with counseling during antenatal period to timely tackle all misconceptions regarding breastfeeding and weaning. Especially among younger mothers, less educated and mothers working in marginal businesses

Biography:

Rahma Abdelseed, 6th year medical student in University of Khartoum. She has attended many Interntional Conferences and also writes various articles.

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An unusual presentation of Menkes Syndrome in a female infant

Sarah Abdelbar
Cairo University, Egypt

Background:

Menkes Syndrome is rare, estimated to be of prevalence of 1:298000 births. It is an X-linked recessive disorder and thus presents mostly in males with only 18 female case reports.

Objective:

The objective of this clinical case report is to highlight the unusual presentation of Menkes Syndrome in females and to avoid incorrect diagnosis.

Case Presentation:

A 9 months old female infant from Aswan, Egypt, presented to hospital with failure to gain weight. The mother reported long standing history (starting at the age of 2 months) of hair changes, facial swelling, and irritability.

Clinical signs were highly suggestive of Menkes Syndrome including failure to thrive, delayed motor milestones, silver kinky hair, myopathic face with sagging cheeks, dry skin with areas of hypo-pigmentation and generalized hypotonia.

Further investigations were carried out for Menkes Syndrome. Serum Copper level came back low at 60 microgram/dl (70-150). Also serum Ceruloplasmin was low at 16 mg/dl (30-90). Radiographs showed severe osteopenia. On microscopic examination of scalp hair, abnormal hair shaft appearance was indicated with pili torti.

Oral Copper has no significant role in treatment of Menkes Syndrome. Parentral Copper in the form of Copper Histidinate gives best results if administered early in life, within the first 28 days.

Biography:

My name is Sarah Abdelbar. I was an IGCSE student. I obtained my MBBCh at Faculty of Medicine, Cairo University in 2017 with a grade Excellent with High Honors. I have had 2 clinical electives abroad in Hungary and England before I started my work as a GP at the Egyptian Ministry of Health. I then started working as a resident doctor of Pediatrics and Neonatology, Abu ElReesh Pediatrics Hospital, Cairo University. This is one of the largest Pediatrics Hospitals in the world. This subjected me to various experience, and the extremely high flow of patients to our hospital has made me come across multiple diseases and disorders, the common and the rare of them, and discuss the case of every patient with my staff whom are university professors and consultants of pediatrics. I also gained different practical skills during my work. I passed my Pediatrics MSc exams first part with excellence. I am a member of the Royal College of Surgeons and the Egyptian Medical Syndicate. I have GMC registration with full license to practice medicine at the UK.

I have had multiple courses over the years including adult resuscitation, immediate life support, first aid, trauma evaluation and management, medical ethics, research basics, soft skills for medical professionals, sudden cardiac arrest and a 5 day summer course at Weill Cornell Medical at which I received a certificate of outstanding achievement for my achievements during the course.

I have got multiple local publications at the Faculty of Medicine official medical magazine. I am also currently awaiting validation of my publication at LancetNeuro. I also have multiple volunteering experience. I joined the medical aid campaigns for the underprivileged, Ramadan food packaging and gave some lessons at an orphanage in Cairo.

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Can 22q11.2 deletion syndrome be used as model to understand the impact of childhood environmental factors on the development of psychosis?

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Background

We conducted a study delving into the impact of childhood environment on the development of psychosis in the 22q11.2 deletion syndrome (22q11.2DS) cohort. 22q11.2DS is viewed as a model of both genetic vulnerability and early traumatic experiences, resulting in a varied phenotype, including a high prevalence of psychotic disorders. Few studies have aimed to identify the influencing factors that result in only a proportion of individuals developing prodromal psychotic symptoms and/or psychosis, despite the prodromal phase being hailed as a prime intervention opportunity.

Method and patients

We investigated the effect of the following variables: stressful and positive life events (SLEs and PLEs), family environment, socioeconomic background and birth order and season, on the development of prodromal and psychotic symptoms. Through this, we aimed to explore the concept that 22q11.2 DS may be utilised as a model to further understand the development of psychosis.

Results

We found that individuals with prodromal psychotic symptoms had a significantly lower frequency of PLEs and lower cohesion, conflict and family environmental scores (corresponding to better cohesion, less conflict and worse family functioning, respectively). Further, those with prodromal psychotic symptoms had a non-significantly higher frequency of SLEs and deprivation, as per the results table below.

Variable		Absence of psychotic symptoms	Presence of psychotic symptoms	P value
Cohesion	Mean	32.00	26.93	0.002
	SD	1.91	3.86	
Conflict	Mean	13.43	17.60	0.006
	SD	2.07	4.72	
Family environment	Mean	65.43	54.53	0.003
	SD	3.50	7.94	
Positive life events	Mean	1.71	1.04	0.016
	SD	1.31	1.72	
Stressful life events	Mean	1.07	1.87	0.094
	SD	1.44	1.73	
Deprivation	Mean	6.93	6.00	0.239
	SD	1.83	2.74	

Additionally, a non-significantly increased relative risk of prodromal symptoms was present for spring/ winter births, relative to autumn/ summer births: RR:1.214, CI:0.794-1.857, p=0.364. No significant differences were found between self-esteem, birth order and season and prodromal symptoms.

Conclusion

The higher levels of cohesion and family conflict in those without prodromal symptoms, relative to those with, was not expected. A possible hypothesis is that individuals at a high-risk state of psychosis may find the emotional relationships of family life overwhelming, resulting in increased physiological arousal and an inability to cope (Jena and Bhatia, 2012). Further, low levels of neighbourhood cohesion may overrule the effects of high levels of family cohesion (Newbury et al., 2016). Thus, differing individual neighbourhoods may partly account for these findings.

The significantly smaller number of positive life events, in those with prodromal psychotic symptoms, is an exciting finding. It demonstrates the interplay between environmental factors and genetic vulnerability in the development of prodromal psychotic symptoms in the 22q11.2DS cohort, subsequently providing potential opportunities for early intervention.

This concept is supported by a previous study suggesting that 'effective coping strategies are related to less severe clinical symptoms and better social functioning in the 22q11.2DS cohort' (Armando et al., 2018). Further studies analysing the effectiveness of interventions in this cohort are now called for. If this trend was cemented, this could lead to ground breaking opportunities for the wider population. Further, the unexpected findings highlight the depth of knowledge that is not yet known and further indicates the need for more research in this area.

While 22q11.2DS is a rare condition, findings here may echo far outside this cohort. Research in this cohort could yield a greater insight into factors influencing the development of psychosis. This may subsequently lead to the discovery of novel methods to reduce the incidence of psychosis on a larger scale.

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Biography

Seline Ismail-Sutton MBBch, graduated from Cardiff University Medical School in 2020. Since then she is undertaking her foundation doctor training at Royal Bournemouth Hospital. She has particular interests in paediatric medicine and paediatric genetics. She also partakes in teaching undergraduate medical students and physician associate students. Topics of scientific interest include 22q11.DS syndrome, particularly the development of psychosis in this cohort and the effect of environmental factors

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Christopher R.K. Ching et al Mapping Subcortical Brain Alterations in 22q11.2 Deletion Syndrome: Effects of Deletion Size and Convergence With Idiopathic Neuropsychiatric Illness

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