Case 2: Mother was 34 years old smoker and multiparous. Antenatal ultrasound scan showed a left sided 25 × 33 mm intracranial arachnoid cyst.

Postnatal cranial ultrasound performed on day 3 of life showed a large arachnoid cyst 37 × 47 mm in size on the left posterior area of the brain. At the Neurosurgical follow up clinic MRI showed the cyst was stable in size with mild mass effect noticed. The baby remains under close follow up and monitoring by the neurosurgical team, with conservative management until the present at age of 16 months.

Objectives

Methods

Results Review & Discussion: Arachnoid cysts are benign cysts that occur in the cerebrospinal axis in relation to the arachnoid membrane. They are most commonly developmental anomalies, however some are acquired and they represent 1% of all space occupying lesions in childhood.

Arachnoid cysts in the antenatal period can be found in isolation or with other intracranial abnormalities associated. The antenatal diagnosis should be confirmed by neonatal neuroimaging; cranial ultrasonography is the first line imaging modality and should happen within the first 24 hrs of age. Brain MRI is the gold standard investigation and should happen within the first 2 weeks of life. Antenatally diagnosed arachnoid cysts may remain clinically silent in postnatal period or even regress spontaneously; but they usually have a tendency to grow rapidly in the perinatal period.

There is no clear guidance on the most appropriate management strategy for these cases. Management include different types of neurosurgical procedures, but endoscopic ventriculocystocisternostomy seems to be the overall preferred approach. **Conclusions** Arachnoid cysts are rare and can remain silent during childhood before presenting with clinical manifestations. Rapid enlargement of incidentally diagnosed antenatal arachnoid cysts can occur in perinatal period. Serial evaluation by imaging in the perinatal period is necessary to demonstrate the rapid cyst enlargement and the need for appropriate intervention. Neurosurgical approach is variable and dependent on clinical features and the department's experience or preference, but the cysts which occur in isolation without any other intracranial anomalies and with normal karyotype usually lead to a good outcome.

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THE RELATIONSHIP BETWEEN SERUM VITAMIN D LEVELS AND ASTHMA PREDICTIVE INDEX (API) IN WHEEZY INFANTS

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Background The relationship between wheezing in infancy and future development of asthma has been under investigation for a long time. API is a widely accepted clinical index to define asthma risk. On the other hand, vitamin D was found to play a principal role in decreasing disease severity of asthma and other allergies.

Objectives To delineate the relationship between the serum level of vitamin D and asthma predictive index in wheezy infants.

Methods In this cross-sectional study fifty wheezy infants and thirty healthy controls of matched age and sex were included. Feeding history and exposure to environmental factors and

were assessed through parents' questionnaire. The clinical characteristics of the children were assessed as well as the asthma predictive index. The serum levels of vitamin D, Calcium and Phosphorus were measured in all patients. Correlation analysis was used to evaluate the relationship between homogeneously distributed variables.

Results Thirty-three of the fifty wheezy child (66%) were recurrent wheezers (had more than three wheezing attacks/year). The Asthma Predictive Index (API) was found to be positive in thirty two patients (64%). Serum Vitamin D was significantly lower in wheezy infants compared to control group as well as API (+ve) patients compared to API (-ve) patients ($p=0.013$, $p<0.01$ respectively).

Serum Vitamin D level showed significant (-ve) correlation with number of previous wheezing episodes ($p<0.01$). No significant difference was found between the API (+ve) group and API(-ve) group in terms of other laboratory markers (Calcium, Phosphorus and Eosinophil count).

Conclusions Vitamin D deficiency was found to be more prevalent in wheezy infants than controls, suggesting it might play an underestimated role in pathogenesis of wheezes in infants. We also suggest that serum vitamin D levels might be used as a biomarker for prediction of (+ve) API state, raising the possibility of having childhood asthma.

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EARLY-LIFE SKIN MICROBIOME AND SUSCEPTIBILITY FOR DIFFERENT ECZEMA SUBPHENOTYPES BY ATOPIC STATUS

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Background Eczema is a common skin inflammatory disorder during infancy. An increasing number of studies have shown an association between eczema and skin microbiome fluctuations. Skin dysbiosis was reported to precede the onset of infant eczema by both culture-based and sequencing-based analyses. However, the pathophysiology of eczema is highly complex and heterogenous. Given that eczema is an umbrella term for atopic (IgE-associated) and non-atopic (non-IgE-associated) forms of eczema, whether skin microbiome plays an important role in determining the subtypes of eczema by atopic status still remains unclear.

Objectives This prospective study aimed to investigate whether profile of early-life skin microbiome in atopic eczema patients was different from that of non-atopic eczema patients.

Methods We followed up 120 Chinese infants in Hong Kong from childbirth for one year. At 12 months, eczema was diagnosed by paediatricians according to Hanifin and Rajka criteria, and meanwhile skin prick test (SPT) for common inhalant and food allergens was conducted to assess atopic status. Based on diagnoses and SPT results, the 120 subjects were further subclassified into atopic eczema group, non-atopic eczema group, and no-active eczema group at 12 months. For each subject, microbes in skin swabs collected at left antecubital fossa were longitudinally sampled at 1, 6 and 12 months. Skin microbiome data was generated by 16S rRNA sequencing. Differentially abundant taxa between atopic and non-atopic eczema groups were assessed by a newly developed statistical methodology called Analysis of Compositions of Microbiomes with Bias Correction (ANCOM-BC).