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Background
A Hong Kong Childhood Stroke Registry (HKCSR) was established for Chinese children.

Objective
To study the clinical presentation, etiology, risk factors and outcome of Chinese children with stroke.

Materials and Methods
A prospective childhood stroke database was collected during 1991-2001 for children with stroke seen in the University of Hong Kong. Neonatal strokes were excluded.

Results
Fifty children (boys: girls = 28: 22) with mean age of 5.4 years were included. The commonest presenting features were seizures and hemiplegia. There were 36 ischemic and 14 haemorrhagic strokes. For ischemic stroke (36), 18 were due to thrombosis - 11 were vascular origin [moya-moya disease (3), neurofibromatosis (2), fibromuscular dysplasia (1) and post-infectious vasculitis (7)]; 5 were haematological [leukaemia (3); thalassaemia (2)]; and 1 each with severe dehydration and Mitochondrial Encephalopathy Lactic Acidosis Syndrome. Of 15 cases with embolic stroke, all had underlying congenital heart diseases. For 14 cases with haemorrhagic stroke, 2 had arteriovenous malformation, 7 had bleeding tendency [leukaemia (2), aplastic anaemia (2), hemophilia (2) and Wiskott Aldrich Syndrome (1)] and 2 had >1 risk factors (leukaemia and sepsis; congenital heart disease with streptokinase infusion after cardiac catheterization). Six (12%) were idiopathic. None had sinovenous thrombosis.

Outcome
The mean follow-up was 6.6 years (1.8-12.4 years). Nine (18%) died, with 5 having ischemic stroke and 4 with hemorrhagic stroke. 44% had neurological deficit, including mental retardation (11), epilepsy (9) and hemiplegia (14). Five had recurrent stroke. Decreased consciousness (p=0.004), hematological cause (p=0.04) and hemorrhagic transformation of ischaemic stroke (p=0.01) were associated with high mortality. Of the 41 survived, the only significant risk factor for long-term neurological deficit was seizure at initial presentation (p=0.04).

Conclusion
The incidence of childhood stroke from our series is 1.7 per 100,000 children per year. The majority had thrombo-embolic stroke. The majority who survived had neurological sequelae.

Outcome of Children with First Febrile Seizure — A Local Cohort Study of 565 Cases

F 4

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Objective
To investigate the clinical profile and outcome of children admitted for first febrile seizure (FS) in Hong Kong.

Methods
A retrospective study was performed for all children admitted to Queen Mary Hospital with first episode of FS for during a 5 years period (March 1998 - March 2003) was conducted. FS is defined as "an event in a neurologically healthy infant or child aged 6 months to 5 years, associated with fever >38°C but without evidence of intracranial infection or a defined cause and with no history of prior afebrile convulsion" (1). Children with pre-existing developmental delay or underlying neurological disorders were excluded.

Results
Of 1113 children admitted during this period with ICD-9 coding of 780.31 for FS, only 565 children were admitted for the first FS. This First FS database consisted of 565 children (boys : girls = 1.4:1). The mean age of onset was 2.1 +/- 1.1 years. Eighty four percent (474/565) was simple FS and 16% (91/565) was complex FS. Family history of FS and afebrile seizures were present in 17.5% and 2.7% respectively.

The commonest infection is upper respiratory tract infection (75%), followed by gastroenteritis (6.3%), lower respiratory tract infection (4.8%), roseola infantum (3.4%), urinary tract infection (1.4%) and clinical sepsis (1%). The isolated organisms included influenza A (11.8%), adenovirus (4.8%), parainfluenza (4.3%), Respiratory Syncytial Virus (2.7%), influenza B (2.1%) [all from nasopharyngeal aspirate], Rotavirus (1.4%) and salmonella (1.4%) [from stool]. There was no significant difference between age of onset, sex, family history of FS, types of infection or causative organisms with presentation as simple or complex FS.

The mean follow-up period was 2.33 +/- 1.69 years. Altogether 103 children had recurrence of FS - with 72% (74/103) having 1 recurrence, 17.5% (18/103) with 2 and 10.5% (11/103) with more than 2 recurrences. The overall recurrence rate was 12.7% by 1 year, 18.7% by 2 years and 20.5% by 3 years.

Early age of onset [p=0.04; OR = 1.9 (95% C.I. = 1.23-2.95)], family history of FS [p=0.04; OR = 1.8 (95% C.I. = 1.07-3.09)] and complex FS [p=0.005; OR = 1.85 (95% C.I. = 1.02-3.27)] were statistically significant risk factors for recurrence. Only 2 children (0.4%) developed afebrile convulsion during follow-up.

Conclusion
The estimated incidence of first FS in our local children is 0.3%. The overall recurrence rate for FS was 20%. Risk factors of recurrence were similar when compared with Caucasians. Type of infections and causative organisms were not important determining factors for recurrence from our study.

Reference
(1) Consensus Development Panel. Febrile seizures: long term management of children with fever-associated seizures. *Paediatrics* 1980;66:1009-12.

Selective Doral Rhizotomy in Children with Spastic Cerebral Palsy

F 5

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Background
Spasticity in children with cerebral palsy has many adverse effects on patient's normal daily function. Selective dorsal rhizotomy (SDR) is one of the many effective surgical options in managing spasticity. SDR has been performed in Tuen Mun Hospital since 1996. Modifications on patient selection and surgical technique continue to be revised every year. We present our latest 2-year experience in managing spastic cerebral palsy children with SDR.

Method
11 patients have undergone SDR between the period of August 2001 to August 2003. The extend of dorsal root to be excised were affected by pre-operative motor assessment, intra-operative motor and EMG assessment. Range of passive moment, Modified Asthworth Score, Gross Motor Function Measure and Gait pattern were recorded before and after operation. Period of follow up included 3 and 12 months. Data during the follow up period were then compared.