



Fig. 1. Cerebral angiography showing stenosis of the left carotid artery (arrow) and formation of moyamoya vessels. Similar stenosis and moyamoya vessels were also seen on the other side

tumour, epilepsy or intracranial haemorrhage but also Moyamoya disease in the differential diagnosis of acute hemiplegia in a patient with Down syndrome.

References

1. Erven PMM, Gabreels FJM, Thijssen HOM, Renier WO (1982) The moyamoya syndrome: a report of two children. *Clin Neurol Neurosurg* 84: 179–189
2. Ichiba N, Murakawa S, Ohtahara S (1984) A case of Down syndrome with "Moyamoya" disease: a consideration on the fibromuscular dysplasia. *No To Hattatsu* 16: 487–491 (in Japanese, Abstract in English)
3. Nishimura M, Takakura H, Ieshima A, Eda I, Ohno K, Takashima S (1985) A case of Down syndrome with moyamoya disease. *No To Hattatsu* 17: 71–75 (in Japanese, Abstract in English)
4. Schragger GO, Cohen SJ, Vigman MP (1977) Acute hemiplegia and cortical blindness due to moyamoya disease: report of a case in a child with Down's syndrome. *Pediatrics* 60: 33–37
5. Schulz IS, Jahara F, Pompeu F, Figueira F, de Oliveira MI (1981) Doença oclusiva progressiva das artérias cerebrais associada a síndrome de Down. Considerações sobre a etiopatogenia. *Arq Neuropsiquiatr* (São Paulo) 39: 237–243
6. Suzuki J (1982) Moyamoya disease. *No To Hattatsu* 14: 236–248 (in Japanese)

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Campylobacter jejuni and infantile traveller's diarrhoea

Sir, — The speed with which a rare infection, even from remote areas, may spread among subjects with close family ties in an epidemic area, is frequently stressed

[5]. We would like to draw attention to the importance of the travelling of migrant families on the epidemiology of infantile diarrhoea in their guest country.

An important immigrant community (about 12% of the total population) essentially from Morocco and Turkey, lives in Brussels (Belgium). During the summer, about one-fifth of them return to their countries, visiting their families. The accompanying children are suddenly exposed to a new microbiological environment, unfamiliar to their immune system; most live in unsanitary conditions and over-crowding. As a consequence, infectious diarrhoea is very common and some of these young patients are admitted to hospital on their arrival in Belgium.

In August and September, between 1982 and 1984, 57 infants and children (mean age: 15.6 ± 9.4 months, range 3–36 months), returning from Morocco or Turkey, were admitted for treatment of diarrhoea in the Department of Paediatrics of the Saint Pierre Hospital in Brussels: 43 (Group I) of them had pathogens in their stools.

During the same period, 356 infants and young children (mean age 11.3 ± 10.4 months, range: 2 weeks–36 months) of the same socio-economic level (68% from migrant families) were also admitted for diarrhoea. None of them had travelled to a foreign country during the 2 months prior to admission (Group II). At least, one infectious pathogen was discovered in 50% (178) of them: a bacterial agent was found in 35% (125), a virus in 14% (50) and *Giardia lamblia* in 5% (19).

The proportion of infected subjects was significantly higher in Group I than in Group II ($P < 0.001$). Table 1 compares the relative frequency of the pathogens within both groups: *Giardia lamblia* is widespread in North Africa and the Middle East [6]; *Shigella sonnei*, *S. flexneri* and *Salmonella* spp. were till now described as the most common pathogens in children returning from the two countries considered [2], while *Campylobacter jejuni* was never described, as far as we know, as the most frequent agent involved in traveller's diarrhoea of infancy.

Considering that Group I was admitted over a 2 months period during 3 consecutive years and accounts for less than 4% (57/1473) of all the admissions for gastroenteritis registered during these 36 months, it appears noteworthy that this group brought back from Morocco and Turkey 10.8% of the *Shigella* ($P < 0.05$) and 12.9% of the *C. jejuni* ($P < 0.01$) cultured during these 3 years. This may partly explain the well docu-

Table 1. Pathogens in the stools of infants and young children admitted during the months August and September of the years 1982–1984 to Saint Pierre Hospital (Brussels) for acute gastroenteritis

	Group I	$P(\chi^2)$	Group II
Number of subjects admitted (%)	57 (100.0)		356 (100.0)
– with pathogens (%)	43 (75.4)	<0.001	178 (50.0)
– with one pathogen (%)	29 (50.9)	NS	165 (46.3)
– with two pathogens or more (%)	14 (32.6)	<0.001	13 (3.7)
Number of pathogens discovered	58 (100.0)	<0.001	194 (100.0)
– <i>Salmonella</i> spp.	8 (18.6)	NS	53 (28.0)
– Enteropathogen <i>Escherichia coli</i>	7 (16.3)	NS	24 (12.7)
– <i>Shigella</i>	9 (20.9)	<0.05	18 (9.5)
– <i>Campylobacter jejuni</i>	18 (41.9)	<0.001	30 (15.9)
– Viruses	8 (18.6)	NS	50 (26.5)
– <i>Giardia lamblia</i>	8 (18.6)	NS	19 (10.1)

Group I: Patients returning from Morocco or Turkey

Group II: Patients living in Brussels admitted during the same period

mented summer peak of *C. jejuni* infections [1, 4].

Since it has never been shown that campylobacter-enteritis is influenced by antibiotics and since 11/18 (61%) of

these *C. jejuni* were resistant to sulfamethoxazole-trimethoprim, the anti-infective therapy recommended in this infantile type of traveller's diarrhoea should probably be reconsidered [3].

References

- Blaser MJ, Reller LB (1981) Campylobacter enteritis: N Engl J Med 305: 1444–1452
- Duhamel JF, Royer P (1980) Les diarrhées du retour. Journées parisiennes de pédiatrie. Flammarion, Médecine-Sciences Edit, Paris 203–210
- Dupont HL, Randall RR, Galindo E, Sullivan PS, Wood LV, Mendiola JG (1982) Treatment of traveller's diarrhoea with trimethoprim/sulfamethoxazole and with trimethoprim alone. N Engl J Med 307: 841–844
- Lauwers S, De Boeck M, Butzler JP (1978) Campylobacter enteritis in Brussels. Lancet I: 604–605
- Williams D, Groggings RC (1984) Shiga bacillus: West Bengal to Bristol. Lancet II: 281
- Wolfe MS (1979) Giardiasis. Pediatr Clin North Am 26: 295–303

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