Key messages

- Collisions between motor vehicles and child pedestrians are a leading cause of child deaths
- This study showed a strong association between increasing risk of injury of child pedestrians and increasing traffic volume
- High density of curb parking was also associated with greatly increased risk of injury
- Transport policies that reduce traffic volumes in urban areas could substantially reduce rates of injury of child pedestrians
- Restricting curb parking at crossing points may also be effective at reducing risk

walking for shorter journeys. Children and their parents have traditionally been held responsible for the problem of child pedestrian safety.²¹ Our results point to the responsibilities of government.

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Predictive value of human papillomavirus type for histological diagnosis of women with cervical cytological abnormalities

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In the past 10 years ablative treatment modalities for cervical intraepithelial neoplasia have been replaced by electrosurgical loop excision of the transformation zone in many centres. Gynaecologists who master the electrosurgical technique are inclined to treat without biopsy. Concern has been expressed that this leads to overtreatment, as cytological abnormalities may result from benign reactive changes.

The broad spectrum of different human papillomavirus types has recently been grouped on the basis of a phylogenetic or evolutionary tree. The main branches of this tree lead to specific groups of human papillomavirus types with similar tissue tropism and oncogenic potential. One of the main branches comprises type 16 and related viruses such as types 31 and 33. Human papillomavirus type 18 belongs to a separate main branch.¹

We investigated whether analysis of human papillomavirus in cervical scrapes might help in the better selection of patients for loop electrosection at the first visit.

Present study

From 1 September 1988 to 1 September 1993 we surveyed patients who had either one cervical smear showing severe dyskaryosis (n=163) or two cervical

smears showing mild or moderate dyskaryosis (n=157). The interval between two abnormal smears was a maximum of one year. The mean age of the patients was 34.8 (SD 8.0) years. Cervical scrapes were analysed for human papillomavirus by a general primer mediated polymerase chain reaction. Positive samples were examined for types 6, 11, 16, 18, 31, and 33 separately by means of type specific primers.² If none of these types could be detected the type remained unknown. Four weeks after the cervix had been scraped we took representative colposcopically directed biopsy samples of atypical epithelium. If cervical intraepithelial neoplasia of any grade was diagnosed we performed loop electrosection or cold knife conisation. Cervical neoplasia was classified according to the most severe grade found histologically.

In the group of 163 women with a severely dyskaryotic smear the prior probability of cervical intraepithelial neoplasia grade II or worse was 151/163 (92.6%). For our purpose this high prior probability signified that analysis of human papillomavirus was less useful in this patient category.

Results, comment, and conclusion

The table shows the human papillomavirus types detected in relation to the histological diagnoses in the 157 patients with two mildly or moderately dyskaryotic cervical smears. In this group the prior probability of cervical intraepithelial neoplasia grade II or worse was 91/157 (58.0%). When human papillomavirus type 16 was detected the (posterior) probability of cervical intraepithelial neoplasia grade II or worse was 36/45 (80.0%). Other investigators reported a similar finding.³ When infections with viruses of the type 16 related phylogenetic branch were considered together, with the exclusion of mixed infections with types 6/11 or 18, the probability of cervical intraepithelial neoplasia grade II or worse was 51/62 (82.3%). Three of the 12 human papillomavirus positive patients without

Human papillomavirus types	Cervical intraepithelial neoplasia grade				Invasive carcinoma	Total
	None	I	II	III		
None	22	18	12	7		59
6/11		1				1
6/11, 16			1	1		2
6/11, 16, 18	1					1
16	5	4	10	24	2	45
16, 18		1	1	1		3
16, 31				2		2
16, 33				1		1
18	4	3	1	3		11
18, 31			1			1
18, 33		2				2
31			4	3		7
31, 33			1	1		2
33	2		1	2		5
Unknown		3	7	4	1	15
Total	34	32	39	49	3	157

neoplasia in biopsy samples probably had a false negative diagnosis because their cervical smears remained abnormal. They were subsequently diagnosed with cervical intraepithelial neoplasia grade II or III. These three patients harboured human papillomavirus type 16 or 33. When we corrected the calculations for these apparent misdiagnoses the probability of cervical intraepithelial neoplasia grade II or worse was estimated to be 54/62 (87.1%) if human papillomavirus type 16, 31, or 33 was detected.

When human papillomavirus type 18 was detected¹ the probability of cervical intraepithelial neoplasia grade II or worse was 4/11 (36.4%). Cervical intraepithelial neoplasia grade II or worse was found

significantly less often in human papillomavirus type 18 positive women than in type 16 positive women (4/11 versus 36/45; $P=0.008$ (Fisher's exact test)). Other investigators reported that human papillomavirus type 18 was equally distributed over low grade and high grade intraepithelial neoplastic lesions.⁴ In a study on the morphology of lesions and observer variability type 18 associated lesions were preferentially classified as low grade.⁵

We conclude that our findings endorse the appropriateness of the phylogenetic classification. In women with two mildly or moderately dyskaryotic cervical smears the detection of human papillomavirus type 16, 31, or 33 (but not type 18) will help to reduce overtreatment if it is hospital policy to perform loop electrosection of the transformation zone without biopsy.

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Long term effects of guar gum on lipid metabolism after carotid endarterectomy

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Open studies in hypercholesterolaemia with guar gum, a dietary fibre obtained from *Cyamopsis tetragonolobus*, have shown 10% to 15% reductions in serum concentration of total cholesterol and 10% to 20% in serum concentration of low density lipoprotein cholesterol after short term treatment. The results from long term studies have been conflicting. To assess long term efficacy of guar gum we treated 40 patients with moderate hypercholesterolaemia for 24 months.

Patients, methods, and results

This randomised double blind, placebo controlled trial with two parallel groups was approved by the university's ethics committee, and subjects' consent was obtained.

Between August 1987 and November 1989, 40 consecutive patients without diabetes were operated on for a haemodynamically measurable carotid stenosis. Both groups comprised 16 men and four women, whose mean age was 63 years (range 49 to 81) and mean body weight 75.8 kg (55.0 to 97.0). There were no group differences in age, sex, or body weight. Serum lipid concentrations were equal, but triglyceride concentrations tended to be higher in the group allocated to treatment with guar gum (see table). After operation

aspirin (250 mg/day) alone or with dipyridamole (225 mg/day) was used. None had drug treatment for hypercholesterolaemia. Thirty seven patients completed the trial. Follow up in both groups was from 24 to 29 months (mean 24.6 months).

Postoperatively patients received 5 g granulated guar gum (Guarem, Orion-Farmos, Espoo, Finland) or placebo three times a day, but otherwise they maintained their usual dietary habits and physical activity. All received dietary advice before treatment. Adverse events and compliance with treatment were monitored at 1, 3, 6, 12, and 24 months. Venous blood (20 ml) was drawn after an overnight fast to measure lipid concentrations before operation and at 12 and 24 months of follow up.

Multiple analysis of variance was performed for each serum lipid and lipoprotein concentration. Measurements at 12 and 24 months were used as dependent variables and pretreatment values as covariates. Differences between treatments were tested with Wilk's lambda. Further comparisons at 12 and 24 months were made by a *t* test, and 95% confidence intervals were calculated for differences between treatments adjusted to values before treatment.

Significant differences between treatments were found in concentrations of both total and low density lipoprotein cholesterol. The adjusted differences were 0.69 mmol/l ($P=0.014$) at 12 months and 1.07 mmol/l ($P=0.0003$) at 24 months for total cholesterol concentration and 0.75 mmol/l ($P=0.0048$) and 1.10 mmol/l ($P=0.00005$) for concentration of low density lipoprotein cholesterol. The concentrations of other lipids and lipoproteins remained virtually unchanged in both groups (table).

There was no reduction in body weight in either group; the final mean weight was 74.9 kg (range 52.0-

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