

may still be relatively unfamiliar. All of us will be hearing more about these organisms, and we owe it to our patients to become familiar with the clinical peculiarities of the diseases they cause, the special maneuvers required to confirm the diagnosis and the appropriate antibiotic therapy. The cases reported by Embil and colleagues offer us valuable help in the familiarization process.

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References

1. HAMMERSCHLAG MR: Chlamydial pneumonia in infants (E). *N Engl J Med* 298: 1083, 1978
2. SCHACHTER J: Chlamydial infections (three parts). *N Engl J Med* 298: 428, 490, 540; 1978

Effects of seatbelt legislation and reduction of highway speed limits in Ontario

On Jan. 1, 1976 the province of Ontario became the first major North American jurisdiction to enact legislation requiring that seatbelts be worn in motor vehicles. The legislation was prompted by an increasing amount of research data and experience showing that seatbelts, when properly worn, are effective in reducing the proportion of fatalities and the severity of injuries resulting from traffic accidents. Pertinent statistics have been documented in a report by the Ontario ministries of transportation and communications, and of health, and it is from this report that I have drawn the following information.¹

The legislation made the wearing of seatbelts mandatory for all drivers and passengers, with the exception of children under 5 years of age, people with medical problems, and people whose work requires them to get in and out of a motor vehicle frequently and whose vehicle travels at a speed not exceeding 40 km/h.

Enforcement of the law began Feb. 1, 1976. The initial law required the use of shoulder belts if they were fitted. An amendment, effective Feb. 27, changed that requirement; now shoulder belts are required only if the car was manufactured on or after Jan. 1, 1976, when inseparable three-point belts became required equipment under the Motor Vehicle Safety Act of Canada.

The Canadian Medical Association, through its Council on Medical

Services and in resolutions of the General Council, has over the past 7 years consistently advocated use of the three-point restraint system, and has urged that the use of seatbelts be mandatory.

At present Ontario, Quebec and British Columbia have laws requiring that seatbelts be worn. The Nova Scotia legislature has passed similar legislation, but it is still awaiting proclamation.

Reinforcing the seatbelt legislation, the Ontario government reduced highway speed limits in February 1976. All highway limits previously posted at 70 mph (110 km/h) were changed to 60 mph (100 km/h), and most that were previously posted at 60 mph were lowered to 50 mph (80 km/h). The limits of certain sections of some highways were changed from 60 to 55 mph (90 km/h) or were not changed because of special considerations.

The primary purpose of the lower highway speed limits was to reduce the fuel consumption of motor vehicles within Ontario. On the basis of experience in the United States, the lower speed limits were also expected to further reduce the number of highway fatalities and injuries.

Prior to introducing the legislation, the Ministry of Transportation and Communications had launched a promotional campaign to persuade motorists to wear seatbelts voluntarily. As a result, there were positive changes in the public's knowledge of

Dyazide® To lower blood pressure and conserve potassium.

Before prescribing, see complete prescribing information in CPS. The following is a brief summary.

ADULT DOSAGE: Hypertension: Starting dosage is one tablet twice daily after meals. Dosage can be subsequently increased or decreased according to patient's need. If two or more tablets per day are needed, they should be given in divided doses. Edema: Starting dosage is one tablet twice daily after meals. When dry weight is reached, the patient may be maintained on one tablet daily. Maximum dosage four tablets daily.

INDICATIONS: Mild to moderate hypertension in patients who have developed hypokalemia and in patients in whom potassium depletion is considered especially dangerous (e.g. digitalized patients). Medical opinion is not unanimous regarding the incidence and/or clinical significance of hypokalemia occurring among hypertensive patients treated with thiazide-like diuretics alone, and concerning the use of potassium-sparing combinations as routine therapy in hypertension.

Edema of congestive heart failure, cirrhosis, nephrotic syndrome, steroid-induced edema and idiopathic edema. 'Dyazide' is useful in edematous patients whose response to other diuretics is inadequate.

CONTRAINDICATIONS: Progressive renal dysfunction (including increasing oliguria and azotemia) or increasing hepatic dysfunction. Hypersensitivity. Elevated serum potassium. Nursing mothers.

WARNINGS: Do not use potassium supplementation or other potassium-conserving agents with 'Dyazide' since hyperkalemia may result. Hyperkalemia (>5.4 mEq/l) has been reported ranging in incidence from 4% in patients less than 60 years of age to 12% in patients 60 and older, with an overall incidence of less than 8%. Rare cases have been associated with cardiac irregularities. Make periodic serum potassium determinations, particularly in the elderly, in diabetics, and in suspected or confirmed renal insufficiency. If hyperkalemia develops, withdraw 'Dyazide' and substitute a thiazide alone. Hypokalemia is less common than with thiazides alone, but if it occurs it may precipitate digitalis intoxication.

PRECAUTIONS: Check laboratory data (e.g. BUN, serum electrolytes) and ECG's periodically, especially in the elderly, in diabetics, in renal insufficiency, and in those who have developed hyperkalemia on 'Dyazide' previously. Electrolyte imbalance may occur, especially where salt-restricted diets or prolonged high-dose therapy is used: Observe acutely ill cirrhotic patients for early signs of impending coma. Reversible nitrogen retention may be seen. Observe patients regularly for blood dyscrasias, liver damage or other idiosyncratic reactions; perform appropriate laboratory studies as required. Sensitivity reactions may occur, particularly in patients with history of allergy or bronchial asthma. Periodic blood studies are recommended in cirrhotics with splenomegaly. Adjust dosage of other antihypertensive agents given concomitantly. Antihypertensive effects of 'Dyazide' may be enhanced in the post-sympathectomy patient. Hyperglycemia and glycosuria may occur. Insulin requirement may be altered in diabetics. Hyperuricemia and gout may occur. Thiazides have been reported to exacerbate or activate systemic lupus erythematosus. Pathological changes in the parathyroid glands have been reported with prolonged thiazide therapy. Triamterene may cause a decreasing alkali reserve, with the possibility of metabolic acidosis. Serum transaminase elevations sometimes occur with 'Dyazide'. Thiazides can decrease arterial responsiveness to norepinephrine and increase tubocurarine's paralyzing effect; exercise caution in patients undergoing surgery. Thiazides cross the placental barrier and appear in breast milk; this may result in fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possible other adverse reactions that have occurred in the adult. Use in pregnancy only when deemed necessary for the patient's welfare.

ADVERSE REACTIONS: The following adverse reactions have been associated with the use of thiazide diuretics or triamterene: Gastrointestinal: dry mouth, anorexia, gastric irritation, nausea, vomiting, diarrhea, constipation, jaundice (intra-hepatic cholestatic) pancreatitis, sialadenitis. Nausea can usually be prevented by giving the drug after meals. It should be noted that symptoms of nausea and vomiting can also be indicative of electrolyte imbalance (See Precautions).

Central nervous system: dizziness, vertigo, paresthesias, headache, xanthopsia.

Dermatologic — Hypersensitivity: fever, purpura, anaphylaxis, photosensitivity, rash, urticaria, necrotizing angitis.

Hematologic: leukopenia, thrombocytopenia, agranulocytosis, aplastic anemia.

Cardiovascular: orthostatic hypotension may occur and may be potentiated by alcohol, barbiturates, or narcotics.

Electrolyte imbalance (See Precautions).

Miscellaneous: hyperglycemia, glycosuria, hyperuricemia, muscle spasm, weakness, restlessness, transient blurred vision.

SUPPLY: Scored light orange compressed tablets monogrammed SKF E93 in bottles of 100, 500, 1,000 and 2,500. DIN 181528.

Dyazide®

25 mg hydrochlorothiazide
50 mg triamterene

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Montreal, Quebec H4M 2L6

and attitudes towards seatbelts from March to October 1975, but the proportion of motorists using seatbelts remained virtually unchanged, at 17.2%. However, after the legislation was enacted the proportion increased dramatically; in March 1976 it was 76.8%. However, by mid-1976 it had dropped to about 65% and by the end of 1976 the proportion using seatbelts while driving on urban and rural roads had decreased to 50%. At the same time, the proportion of motorists wearing seatbelts while they were driving on expressways rose significantly but not as dramatically as for other types of roads. In October 1975 on expressways the proportion was 38.1%, but after the legislation was enacted it increased to 76.3%, which was approximately the overall rate of use at that time. By the end of 1976 it had dropped to 44.4%, only 6.3% above that before the legislation.

Following the reduction of highway speed limits the average highway operating speeds decreased by approximately 50% of the posted reductions — that is, when a speed limit had been reduced by 16 km/h the drivers were reducing their speed by an average of 8 km/h. Further, highway speeds were less variable, which should have resulted in smoother, more uniform and safer traffic flow.

A statistical monitoring mechanism to assess the combined effects of seatbelt legislation and lower highway speed limits was created. While the number of accidents and deaths from motor vehicle accidents in Ontario has been recorded, the monitoring mechanism was designed to assess the changes in the cost of hospital and medical treatment of such injuries. Owing to data limitations, only the information for persons who were treated as inpatients or outpatients in selected hospitals was evaluated. Furthermore, only the cost of active treatment — defined as the sum of outpatient emergency treatment, acute inpatient hospital care, and cost of medical treatment and therapy — was ascertained.

The cost of the monitored injuries was recorded for 1975 and 1976, before and after seatbelt legislation was enacted and the highway speed limits were reduced, and was projected to provincial estimates. The changes between 1975 (the control period) and

sinemet*

(levodopa and carbidopa combination)

INDICATIONS

Treatment of Parkinson's syndrome with exception of drug induced parkinsonism.

CONTRAINDICATIONS

When a sympathomimetic amine is contraindicated; with monoamine oxidase inhibitors, which should be discontinued two weeks prior to starting SINEMET*; in uncompensated cardiovascular, endocrine, hematologic, hepatic, pulmonary or renal disease; in narrow-angle glaucoma; in patients with suspicious, undiagnosed skin lesions or a history of melanoma.

WARNINGS

When given to patients receiving levodopa alone, discontinue levodopa at least 12 hours before initiating SINEMET* at a dosage that provides approximately 20% of previous levodopa.

Not recommended in drug-induced extrapyramidal reactions; contraindicated in management of intention tremor and Huntington's chorea.

Levodopa related central effects such as involuntary movements may occur at lower dosages and sooner, and the 'on and off' phenomenon may appear earlier with combination therapy.

Monitor carefully all patients for the development of mental changes, depression with suicidal tendencies, or other serious antisocial behaviour.

Cardiac function should be monitored continuously during period of initial dosage adjustment in patients with arrhythmias.

Upper gastrointestinal hemorrhage is possible in patients with history of peptic ulcer.

Safety of SINEMET* in patients under 18 years of age not established.

Pregnancy and lactation: In women of child-bearing potential, weigh benefits against risks. Should not be given to nursing mothers. Effects on human pregnancy and lactation unknown.

PRECAUTIONS

General: Periodic evaluations of hepatic, hematopoietic, cardiovascular and renal function recommended in extended therapy. Treat patients with history of convulsions cautiously. **Physical Activity:** Advise patients improved on SINEMET* to increase physical activities gradually, with caution consistent with other medical considerations. **In Glaucoma:** May be given cautiously to patients with wide angle glaucoma, provided intraocular pressure is well controlled and can be carefully monitored during therapy. **With Anti-hypertensive Therapy:** Asymptomatic postural hypotension has been reported occasionally, give cautiously to patients on antihypertensive drugs, checking carefully for changes in pulse rate and blood pressure. Dosage adjustment of antihypertensive drug may be required. **With Psychoactive Drugs:** If concomitant administration is necessary, administer psychoactive drugs with great caution and observe patients for unusual adverse reactions. **With Anesthetics:** Discontinue SINEMET* the night before general anesthesia and reinstitute as soon as patient can take medication orally.

ADVERSE REACTIONS

Most Common: Abnormal Involuntary Movements—usually diminished by dosage reduction—choreiform, dystonic and other involuntary movements. Muscle twitching and blepharospasm may be early signs of excessive dosage. **Other Serious Reactions:** Oscillations in performance: diurnal variations, independent oscillations in akinesia with stereotyped dyskinesias, sudden akinetic crises related to dyskinesias, akinesia paradoxica (hypotonic freezing) and 'on and off' phenomenon. **Psychiatric:** paranoid ideation, psychotic episodes, depression with or without development of suicidal tendencies and dementia. Levodopa may produce hypomania when given regularly to bipolar depressed patients. Rarely convulsions (causal relationship not established). Cardiac irregularities and/or palpitations, orthostatic hypotensive episodes, anorexia, nausea, vomiting and dizziness.

Other adverse reactions that may occur:

Psychiatric: increased libido with serious antisocial behaviour, euphoria, lethargy, sedation, stimulation, fatigue and malaise, confusion, insomnia, nightmares, hallucinations and delusions, agitation and anxiety. **Neurologic:** ataxia, faintness, impairment of gait, headache, increased hand tremor, akinetic episodes, "akinesia paradoxica", increase in the frequency and duration of the oscillations in performance, torticollis, trismus, tightness of the mouth, lips or tongue, oculogyric crisis, weakness, numbness, bruxism, priapism. **Gastrointestinal:** constipation, diarrhea, epigastric and abdominal distress and pain, flatulence; eructation, hiccups, sialorrhea; difficulty in swallowing, bitter taste, dry mouth; duodenal ulcer; gastrointestinal bleeding; burning sensation of the tongue. **Cardiovascular:** arrhythmias, hypotension, non-specific ECG changes, flushing, phlebitis. **Hematologic:** hemolytic anemia, leukopenia, agranulocytosis. **Dermatologic:** sweating, edema, hair loss, pallor, rash, bad odor, dark sweat. **Musculoskeletal:** low back pain, muscle spasm and twitching, musculoskeletal pain. **Respiratory:** feeling of pressure in the chest, cough, hoarseness, bizarre breathing pattern, postnasal drip, **Urogenital:** urinary frequency, retention, incontinence, hematuria, dark urine, nocturia, and one report of interstitial nephritis. **Special Senses:** blurred vision, diplopia, dilated pupils, activation of latent Horner's syndrome. **Miscellaneous:** hot flashes, weight gain or loss. Abnormalities in laboratory tests reported with levodopa alone, which may occur with SINEMET*: Elevations of blood urea nitrogen, SGOT, SGPT, LDH, bilirubin, alkaline phosphatase or protein bound iodine. Occasional reduction in WBC, hemoglobin and hematocrit. Elevations of uric acid with colorimetric method. Positive Coombs tests reported both with SINEMET* and with levodopa alone, but hemolytic anemia extremely rare.

DOSAGE SUMMARY

In order to reduce the incidence of adverse reactions and achieve maximal benefit, therapy with SINEMET* must be individualized and drug administration continuously matched to the needs and tolerance of the patient. Combined therapy with SINEMET* has a narrower therapeutic range than with levodopa alone because of its greater milligram potency. Therefore, titration and adjustment of dosage should be made in small steps and recommended dosage ranges not be exceeded. Appearance of involuntary movements should be regarded as a sign of levodopa toxicity and an indication of overdosage, requiring dose reduction. Treatment should, therefore, aim at maximal benefit without dyskinesias.

Therapy in Patients not receiving Levodopa: Initially ½ tablet once or twice a day, increase by ½ tablet every three days if desirable. An optimum dose of 3 to 5 tablets a day divided into 4 to 6 doses.

Therapy in Patients receiving Levodopa: Discontinue levodopa for at least 12 hours, then give approximately 20% of the previous levodopa dose in 4 to 6 divided doses.

FOR COMPLETE PRESCRIBING INFORMATION, PARTICULARLY DETAILS OF DOSAGE AND ADMINISTRATION, PLEASE CONSULT PRODUCT MONOGRAPH WHICH IS AVAILABLE ON REQUEST.

HOW SUPPLIED

Ca 8804—Tablets SINEMET* 250, dapple-blue, oval, biconvex, scored, compressed tablets coded MSD 854, each containing 25 mg of carbidopa and 250 mg of levodopa. Available in bottles of 100 and 500.

*Trademark

SNM-8-480-JA



**MERCK
SHARP
& DOHME** CANADA LIMITED
POINTE CLAIRE, QUEBEC

VANCENASE*

(Beclomethasone Dipropionate
Nasal Inhaler)

Indications: VANCENASE is indicated for the treatment of perennial and seasonal rhinitis, when tolerance to, or effectiveness of, conventional treatment is unsatisfactory.

Contraindications: Active or quiescent untreated pulmonary tuberculosis or untreated bacterial, viral and fungal infections. In children under the age of 6 years and in patients with known hypersensitivity to any of the ingredients of the preparation.

Warnings: In patients previously on high doses of systemic steroids, transfer to VANCENASE may cause withdrawal symptoms: tiredness, aches and pains, and depression. In severe cases, acute adrenal insufficiency may occur necessitating the temporary resumption of systemic steroids. The safety of VANCENASE in pregnancy has not been established. The use of VANCENASE during the first trimester of pregnancy is not recommended. If used during the second and third trimester, the expected benefits should be weighed against the potential hazards to the fetus. VANCENASE is not recommended for those patients with a history of recurrent nasal bleeding.

Precautions: The transfer of a patient from systemic steroids to VANCENASE has to be very gradual and carefully supervised by the physician. The guidelines under Dosage and Administration should be followed. There is an enhanced effect of corticosteroids in patients with hypothyroidism and in those patients with cirrhosis. Fluorocarbon propellants may be hazardous if they are abused deliberately. Inhalations of high concentrations of aerosol sprays has brought about cardiovascular toxic effects and even death especially under conditions of hypoxia. However, evidence attests to the relative safety of aerosols when used properly and with adequate ventilation. VANCENASE is not to be used during an asthmatic attack. Acetylsalicylic acid should be used cautiously in conjunction with corticosteroids in hypothermia. Patients should be advised to inform subsequent physicians of the prior use of corticosteroids. During VANCENASE therapy, the possibility of pharyngeal candidiasis, atrophic rhinitis or other changes in nasal mucosa should be kept in mind. Corticosteroid therapy can cause decreased resistance to localized infection. Should nasopharyngeal infections occur during therapy, appropriate alternate treatment should be instituted. The replacement of systemic steroids with VANCENASE may unmask symptoms of allergies which were previously suppressed by the systemic drug. If hypersensitivity reactions occur during therapy, the drug should be discontinued.

Adverse Reactions: The most frequently observed side effects were those consistent with what one would expect in applying a topical medication to an already inflamed membrane. These include mild transient burning and stinging which occasionally required discontinuance of therapy. Other side effects seen in patients treated with VANCENASE were: nasal irritation, nose bleed, sneezing, throat irritation and sore throat.

Dosage and Administration: VANCENASE is to be administered by the intra-nasal route only. The usual dose for adults and children over 6 years of age is one metered dose (50 µg) into each nostril three to four times daily. Maximum daily dose should not exceed 20 metered doses (1000 µg or 1 mg) for adults and 10 doses (500 µg or 0.5 mg) for children. Subsequent dosage may be modified according to patient response. Insufficient information is available to warrant the safe use in children under age 6. When VANCENASE is used concurrently with VANCERIL, the combined total daily dose should not exceed the maximum daily recommended dose of beclomethasone dipropionate. Physicians should emphasize to patients the need for the regular use and proper operation of the pressurized canister. It is important in the use of the product that the nasal passages be clear before using VANCENASE. This may be done simply by blowing the nose or by taking other appropriate medical measures when necessary. Careful attention must be given to patients previously treated for prolonged periods with systemic corticosteroids when transferring them to VANCENASE. Initially, VANCENASE and the systemic steroid must be given concomitantly for 10-14 days, followed by a gradual withdrawal of the systemic steroids. Dose reductions should be at a rate not to exceed 1 mg (prednisone) every 10-14 days if close continuous medical supervision is not feasible. It may be possible to withdraw systemic corticosteroids more rapidly if the initial dosage was 7.5 mg daily of prednisone (or equivalent) or less, or if the patient is under close continuous medical supervision. In patients who are not able to completely discontinue the use of systemic steroids, a minimum maintenance dose should be continued in addition to VANCENASE.

Dosage Form: VANCENASE is a metered dose aerosol contained in a canister fitted with a specially designed nasal adaptor which delivers 50 µg beclomethasone dipropionate per metered dose. Canisters are filled to provide a minimum of 100 doses, or 200 doses depending on the dosage size specified.

Product monograph available to health professionals on request. Schering Corporation Limited, Pointe Claire, Quebec, H9R 1B4.

*T.M.

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1976 (the experimental period) are illustrated on the basis of statistics from the Ministry of Transportation and Communications and provincial estimates from the monitoring system.

Below are the pertinent comparative statistics. Costs are indicated in constant 1975 dollars.

- The number of persons killed in motor vehicle accidents decreased by 16.1%, from 1800 to 1511.

- The number of persons injured (hospitalized and nonhospitalized) decreased by 13.7%, from 97 034 to 83 736.

- The number of hospitalized victims (inpatients and outpatients) decreased by 16.1%, from 53 923 to 45 242.

- The number of inpatient victims decreased by 21.6%, from 11 018 to 8635.

- The number of outpatient victims decreased by 14.7%, from 42 905 to 36 607.

- The cost of active treatment for hospitalized persons (inpatients and outpatients) decreased by 10.7%, from approximately \$18-280 000 to \$16 332 000.

- Hospital inpatient care accounted for the largest expenditure; approximately \$14 506 000 and \$13 078 000 in 1975 and 1976 respectively (a reduction of 9.8%).

- Medical fees accounted for the second largest expenditure; approximately \$2 856 000 and \$2-476 000 in 1975 and 1976 respectively.

- The number of persons with minor injuries declined by 13.0% and the number of persons with moderate to maximum injuries was reduced by 14.5%.

- The number of days of acute hospital care for the victims declined from the estimated 127 423 to 111 088, a reduction of 12.8%.

- The average acute hospital stay for inpatients increased from 11.6 to 12.9 days.

- The average cost of active treatment per hospitalized victim increased by 6.5%, from \$339 to \$361, mainly because of the increased stay.

- In 1976 the average cost of active treatment for victims who reported having worn seatbelts was \$228. Victims who reported otherwise and had been inside the ve-

hicle incurred an average cost of \$419. Other victims, such as pedestrians and cyclists (including bicyclists, moped and motorcycle drivers and passengers) incurred average costs of \$693 and \$498 respectively.

Although before-and-after situations are always subject to qualification, the results of the statistical monitoring in Ontario clearly indicate the combined effectiveness of the wearing of seatbelts and the reducing of highway speed limits on the number and cost of injuries, and reflect the reluctance of some people to comply with the new regulations.

H.I. MACKILLOP

Director

Data development and evaluation branch
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Reference

1. *Changes in the Number and Cost of Motor Vehicle Injury Victims in Ontario Following the Introduction of Seat Belt Legislation and Highway Speed Limit Reductions, 1975-1976*, Monitoring System Committee, Ministry of Health, Ministry of Transportation and Communications, Toronto, 1978

Stamp of medical interest

Postage stamps have been used for propaganda purposes for many years. Recently Austria issued the well designed, multicoloured stamp (Scott no. 1012) reproduced below to promote the wearing of seatbelts.

GEORGE A. MAYER, MD, M SC
837-847 Princess St.
Kingston, Ont.



"Seatbelts will tie the hands of death"