increase in orthostatic symptoms on rising in the morning. Symptoms often decrease during the day but may be exacerbated by eating as this may be followed by appreciable hypotension.⁹

Blood pressure in patients with autonomic failure is very sensitive to changes in extracellular fluid volume. Sleeping with the head and trunk raised 20° reduces nocturnal diuresis and tends to restore fluid volume and reduce orthostatic symptoms.^{10,11} This is the single most important measure in treating patients with autonomic failure—yet it is often ignored.

Drug treatment may be necessary if tilting the bed at night does not produce adequate improvement. When a doctor assesses a patient's response to drugs he must establish a stable baseline of sodium intake and be aware that orthostatic blood pressure responses may vary from day to day and are greatest on rising in the morning. He must also understand that loss of blood pressure buffering by baroreflexes, together with denervation hypersensitivity, may lead to dangerous pressor responses to drugs, particularly during recumbency.

Drugs that increase extracellular fluid volume are the first to use, and fludrocortisone is the drug of choice.¹² It is introduced at a low dose (0.1 mg/day) and titrated at intervals of 1-2 weeks; its effects are limited by fluid retention, supine hypertension, and hypokalaemia. If night tilt and fludrocortisone do not produce enough benefit then a cautious trial of indomethacin or other non-steroidal anti-inflammatory drugs may be considered,^{13,14} but they do not always help patients with autonomic failure.¹⁵ Treatment should be stopped if there is no objective evidence of benefit.

Drugs with α adrenergic agonist effects—for example, ephedrine and tyramine with a monoamine oxidase inhibitor—have been tried in patients with autonomic failure.¹⁶ They may, however, lead to pronounced hypertension, especially during recumbency. Furthermore, they often do not work and so have a very limited role in treatment. Drugs with β adrenergic effects may be more useful. The number of β adrenoceptors rises in autonomic failure,¹⁷ and β adrenergic antagonists with intrinsic sympathomimetic activity—for example, pindolol—may have predominantly agonistic effects.¹⁸ The drugs do not always work, however, and heart failure has developed in some patients.^{19,20} Drugs with greater agonistic effects—for example, xamoterol,²¹ and prenalterol²²—may produce greater benefit with less risk of provoking heart failure, although these drugs have not yet been adequately assessed in sympathetic failure.

Recently two other modes of treatment have been investigated. Patients given intramuscular desmopressin (a vasopressin analogue) at night in a short term pilot study had less nocturnal diuresis and weight loss and an improved daytime blood pressure.²³ Unfortunately one patient developed water intoxication. Long term studies using intranasal desmopressin will be necessary to show whether this drug is useful. Dihydroergotamine is a synthetic ergot alkaloid with vasoconstrictor effects that has been well tolerated when used to prevent perioperative venous thrombosis.^{24,25} It improved daytime blood pressure when given intramuscularly to patients with orthostatic hypotension secondary to diabetes or alcoholism.²⁶ Postprandial hypotension remained troublesome but was much improved by combined treatment with dihydroergotamine and caffeine (250 mg before breakfast). Further studies will be necessary to show whether this combination is useful in patients with primary autonomic failure and whether supine hypertension will limit its usefulness.

The cornerstone of treating patients with autonomic failure is tilting the bed at night and volume expansion with fludrocortisone. In patients disabled by persisting orthostatic symptoms other forms of treatment may be considered—but they require very careful assessment because of serious side effects.

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Enuresis at 25

Recently I heard of an elderly woman whose son had been a bedwetter for 30 years. She had been completely unaware of continence services—for her the plastic mattress cover was one of the wonders of modern science. Adults with enuresis are not rare, and, although some can be successfully treated, others need the support of continence services.

Enuresis is a normal reflex act of micturition during sleep¹ and is thus different from the overflow incontinence at night that might be the presenting symptom of chronic retention of urine. Why the detrusor muscle involuntarily contracts in patients with enuresis is not known, but it may be an impairment of either sensory perception or motor inhibition.

Urodynamic studies show a high prevalence of unstable bladder activity in such patients but no consistent abnormality.^{2,4}

About 15% of children have enuresis at 5 and about 2% at 16.⁵ Both sexes are equally affected among these young adults, but three distinct groups may be identified. Firstly, there are those who have only nocturnal enuresis: they are likely to be dry by age 25. Secondly, there are those with the enuretic syndrome: they have diurnal frequency, urgency, and urge incontinence as well as enuresis. The third group with recurrent enuresis are those who have relapsed after a variable period of being dry. In these second and third groups symptoms may persist for years and perhaps for life. One study of 65 consecutive adults with enuresis showed that 13 had only nocturnal enuresis, 36 the enuretic syndrome, and 16 recurrent enuresis.⁴ Most of the patients were under 30, and those who still had symptoms at 25 were likely to continue to have them.

As enuresis is a functional disorder examination of the patient, microbiological examination of the urine, and an excretion urogram will not show any abnormality. The functional bladder capacity may be reduced,⁶ but this will be shown only if the patient keeps a careful record: over one week he should record the volumes of urine voided and the episodes of incontinence. This simple exercise is often neglected, yet it provides useful information for the doctor and feedback for the patient. Few adults know how much their bladder holds or how much urine they produce during a night's sleep.

Many treatments are available: conditioning techniques such as bladder drill⁷; drugs such as tricyclic antidepressants, anticholinergics, and desmopressin⁸; and, finally, for selected cases operative procedures such as bladder transection⁹ or enterocystoplasty.¹⁰ Ideally management should follow a rational sequence, but in practice this plan is often complicated by the psychosocial aspects of the condition.

We are now doing better at treating patients with urinary incontinence. The multidisciplinary Association of Continence Advisors was founded in 1981, and a report in 1983 from the King's Fund has encouraged public education on incontinence.¹¹ A report last year from the Royal College of Physicians suggested that all health districts should have a continence service,¹² and continence nurse advisers have now been appointed in many districts. An adult with enuresis who has not responded to treatment needs the support of such continence services.

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Respiration and connective tissue diseases

"Connective tissue diseases" is an unsatisfactory term for several illnesses in which immune disturbances cause widespread inflammatory damage to organs. Except in scleroderma, this damage does not primarily affect connective tissue. Autoantibodies to intracellular antigens are a common, though not universal, feature. The main value of the term is to group several diseases of unknown and probably diverse aetiology that have similar clinical features and may be diagnostically confused. Their diversity is well illustrated by their range of effects on the respiratory system.

Weakness of the muscles of ventilation and deglutition commonly accompanies the inflammatory myopathies—polymyositis and dermatomyositis^{1,2}—and pneumonitis after aspiration is an important cause of death in severely affected patients.² Inflammatory myopathy is also a feature of scleroderma and systemic lupus erythematosus. Myasthenic muscle weakness should not be overlooked. Myasthenia gravis, polymyositis, and systemic lupus erythematosus share at least one disease susceptibility gene inherited in the major histocompatibility complex³ and combinations of these diseases occur more frequently than would be expected by chance.⁴

Pleural disease is common in systemic lupus erythematosus⁵ and is occasionally accompanied by the life threatening complication of "shrinking lungs" in which reduced lung volumes occur together with a striking elevation of the diaphragm.^{6,7} The aetiology of this condition is not understood, and it often does not run in parallel with overall disease activity.⁶ Affected patients may have weak inspiratory muscles,^{6,7} but the association with pleuritic chest pain and linear atelectasis on chest radiographs suggests that this is not the whole explanation. Some patients with "shrinking lungs" have reduced pulmonary compliance.⁷ Pneumonitis with loss of surfactant is an alternative explanation for the reduced lung volumes.

Pulmonary fibrosis is prominent in patients with scleroderma. There is some recent evidence⁸ that penicillamine may have some beneficial effect on the pulmonary fibrosis of scleroderma but the effect is not striking. Pulmonary fibrosis is also seen in patients with polymyositis, rheumatoid arthritis, Sjögren's syndrome, and systemic lupus erythematosus. Patients with polymyositis are more likely to have pulmonary fibrosis, Raynaud's phenomenon, and the sicca syndrome^{9,10} if they also have autoantibodies to the antigen Jo-1 (histidyl tRNA synthetase),¹¹ but the autoantibodies probably do not directly cause inflammation.

Why particular organs are affected in these multisystem diseases is poorly understood. The lungs are especially susceptible to inflammatory damage from inhaled substances which may potentiate and localise the effects of other diseases—an example is the extensive pulmonary fibrosis seen rarely in coal miners with rheumatoid arthritis.¹² Cigarette smoking much more commonly incites pulmonary disease—for example, pulmonary haemorrhage in Goodpasture's syndrome is largely restricted to smokers.¹³ Presumably autoantibodies against basement membrane achieve access to pulmonary basement membrane only in the damaged alveoli of smokers.

Obstruction of small airways is extremely common, though usually mild, in patients with rheumatoid arthritis,¹⁴⁻¹⁶ scleroderma, and Sjögren's syndrome. The obstruction occurs in

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