suppressive action of carbimazole will affect not only the thyroid but also the retrobulbar immune response, and secondly, to ensure a normal or undetectable serum thyroid stimulating hormone concentration—in view of the clinical observation that any tendency to hypothyroidism may make the eye disease worse. If thyroid surgery is indicated there is a basis for total rather than subtotal thyroidectomy, as thyroid antigens and antibodies might reach the orbit through the lymphatic system and trigger a local inflammatory reaction.⁸

The treatment of Graves' ophthalmopathy is far from satisfactory, and signs of disease may persist indefinitely. In patients with severe disease and visual loss immediate treatment with high doses of corticosteroids—either oral prednisolone or intravenous methylprednisolone—may avert blindness.⁹ Plasma exchange, by removing harmful but unspecified immunoglobulins and immune complexes from the circulation, may be a useful adjunct.¹⁰ If, however, there is no improvement after 72-96 hours the compression of the optic nerve should be relieved by surgical removal of the floor and medial wall of the orbit.¹¹

The main therapeutic problems, however, are posed by patients with moderate ophthalmopathy. Most clinicians adopt an expectant policy in the hope that the condition will settle spontaneously or at least improve substantially during the next two to three years—and it does in most patients. In the interim the symptoms of pain and grittiness may be ameliorated with methylcellulose eye drops by day and a lubricating eye ointment at night; exposure keratitis may be relieved by lateral tarsorrhaphy or preferably by a procedure to lower the upper lid; and diplopia may be relieved by prisms and possibly by surgery to the extraocular muscles at a later date. Static or worsening ophthalmopathy is often considered to be an indication for treatment with steroids, which may produce some improvement but do not modify the natural course of the condition. Maintenance doses of 10-20 mg of prednisolone daily are usually required—with all their potential disadvantages of osteoporosis, hypertension, and diabetes mellitus in a population that is usually middle aged or elderly. It is in the group of patients with moderate ophthalmopathy,

therefore, that the neglected treatment of orbital irradiation should be seriously considered at an early stage,¹² as should surgical decompression, especially if diplopia—the main complication of surgery—is already present. Patients should be advised to stop smoking, as this habit has been associated with ophthalmopathy.^{13 14} The distress caused by the appearance of the eyes, particularly in patients considered to have mild ophthalmopathy, should not be underestimated; more attention should be given to cosmetic eyelid surgery to correct lid retraction and to remove the prolapsed orbital fat that is responsible for the unsightly periorbital puffiness.¹⁵

The single most important aspect of the management of patients with Graves' ophthalmopathy, however, is close liaison between the physician and the ophthalmologist.

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- 1 Enzmann DR, Donaldson SS, Kriss JP. Appearance of Graves' eye disease on orbital computed tomography. *J Comput Assist Tomogr* 1979;3:815-9.
- 2 Werner SC, Coleman DJ, Franzen LA. Ultrasonographic evidence of a consistent orbital involvement in Graves' disease. *N Engl J Med* 1974;308:420-4.
- 3 Sisson JC, Vanderburg JA. Lymphocyte-retrobulbar fibroblast interaction: mechanisms by which stimulation occurs and inhibition of stimulation. *Investigative Ophthalmology* 1972;11:15-20.
- 4 Trokel SL, Jakobiec FA. CT scanning and pathological features of ophthalmic Graves' disease. *Ophthalmology* 1981;88:553-64.
- 5 Kendall-Taylor P. The management of Graves' ophthalmopathy. *Clin Endocrinol* 1989;31:747-56.
- 6 Sidama V, DeGroot LJ. Treatment of Graves' disease and the course of ophthalmopathy. *Am J Med* 1989;87:70-3.
- 7 Bartalena L, Marcocci C, Bogazzi F, Panicucci M, Lepri A, Pinchera A. Use of corticosteroids to prevent progression of Graves' ophthalmopathy after radioiodine therapy for hyperthyroidism. *N Engl J Med* 1989;321:1349-52.
- 8 Kriss JP, Konishi J, Herman M. Studies on the pathogenesis of Graves' ophthalmopathy (with some related observations regarding therapy). *Recent Prog Horm Res* 1975;31:533-66.
- 9 Kendall-Taylor P, Crombie AL, Stephenson A, Hardwick M, Hall K. Intravenous methylprednisolone in the treatment of Graves' ophthalmopathy. *Br Med J* 1988;297:1574-8.
- 10 Glinier D, Etienne-Decerf J, Schrooyen M, et al. Beneficial effects of intensive plasma exchange followed by immunosuppressive therapy in severe Graves' disease. *Acta Endocrinol* 1986;111:30-8.
- 11 Warren JD, Spector JG, Burde R. Long-term follow-up and recent observations on 305 cases of orbital decompression for dysthyroid orbitopathy. *Laryngoscope* 1989;100:35-40.
- 12 Harnett AN, Doughty D, Hirst A, Plowman PN. Radiotherapy in benign orbital disease II: ophthalmic Graves' disease and orbital histiocytosis X. *Br J Ophthalmol* 1988;72:289-92.
- 13 Hagg E, Asplund K. Is endocrine ophthalmopathy related to smoking? *Br Med J* 1987;295:634-5.
- 14 Shine B, Fells P, Edwards OM, Weetman AP. Graves' ophthalmopathy is associated with smoking. *Lancet* (in press).
- 15 Hedin A. Eyelid surgery in dysthyroid ophthalmopathy. *Eye* 1988;2:201-6.

Cervical cytology

The terms used on the smear report form provide a workable system

The report on a cervical smear should convey a clear message to the clinician who took it. The future management and welfare of the patient depends not only on accurate interpretation of the smear by the cytologist but on the effective communication of the result. The terminology and classification used must also provide an accurate basis for wider reference.

In 1986 a working party of the British Society for Clinical Cytology reported on terminology in gynaecological cytopathology.¹ Its recommendations were endorsed by the report of the intercollegiate working party on cervical cytology screening,² and the national cervical smear request form (HMR 101/5(1989)) has been redesigned to take account of the recommended terminology.

Smears from women with cervical intraepithelial neoplasia or invasive carcinoma contain cells that show dyskaryosis ("abnormal nucleus"). Dyskaryosis is classified as mild, moderate, or severe according to its compatibility with cervical intraepithelial neoplasia grades I, II, or III (CIN

I, II, and III)—mild, moderate, or severe dysplasia and carcinoma in situ in the old histological terminology. A smear with severe dyskaryosis may contain certain features that are associated with invasive cancer, and the report draws attention to these; but a definite diagnosis of invasion can be made only by using a histological biopsy specimen.

Problems arise in practice when attempting to impose a rigid classification on an assessment that is a subjective interpretation of a continuous range of disease. Inevitably there must be examples that fall between the defined abnormalities. In cervical cytology it is the borderline between reactive change, usually described as inflammatory, and the mild dyskaryosis of CIN I that presents the most frequent challenge to the cytologist. A variable degree of inflammatory change is seen in all cervical smears, but the appearance of the epithelial cells in a few cases is so nearly dyskaryotic that cervical intraepithelial neoplasia cannot be excluded entirely. These equivocal smears are classified as borderline in the new report format.

Another diagnostic difficulty concerns infection with the human papillomavirus, which causes changes in cervical smears that may be indistinguishable from the mild dyskaryosis of CIN I.³ Patients in whom the cervical smear shows human papillomavirus infection require careful surveillance because of its frequent association with cervical intraepithelial neoplasia.⁴ These problems of interpretation, as well as sampling bias, account for the poorer specificity of cervical cytology reports at the lower end of the range of abnormality compared with the high specificity of reports of severe dyskaryosis.⁵

Any patient with signs or symptoms that raise suspicion of cervical cancer should be referred immediately for further investigation. In the absence of clinical suspicion one cytology report of borderline changes or mild dyskaryosis with or without infection with human papillomavirus should be followed up with another cervical smear test. A second such report is an indication for colposcopic examination.²

Recently a group of experts convened by the United States National Cancer Institute in Bethesda, Maryland, published recommendations on reporting cervical and vaginal cytology.⁴ The Bethesda system has been advanced as a replacement of the outdated Papanicolaou classification. It introduces a new diagnostic term—squamous intraepithelial lesion—to encompass grades of cervical intraepithelial neoplasia (or dysplasia and carcinoma in situ). Squamous intraepithelial lesion (SIL) is subdivided into two categories—low grade SIL, which includes cellular changes associated with human papillomavirus infection and CIN I, and high grade SIL, which includes CIN II and CIN III. The Bethesda system has two other categories for abnormalities of squamous epithelial cells—squamous cell carcinoma and atypical squamous cells of indeterminate origin. The atypical cell category is equivalent to the British borderline report. Results in the

British terminology can be transposed easily to the Bethesda system and vice versa if necessary, but there are conceptual and practical difficulties in the American recommendations. The Bethesda system for cytology reporting classifies squamous intraepithelial lesion separately from squamous cell carcinoma—implying that the distinction can be made accurately from a smear. Though the value of the smear test lies in its remarkably true reflection of the histological state of the epithelium, the use of histological terms suggests that a smear is equivalent to a tissue biopsy specimen. The British Society for Clinical Cytology working party rejected the use of histological terms for describing cells scraped from the surface of the epithelium as scientifically incorrect and potentially misleading.

The terminology introduced by the society in 1986 is widely used in Britain. It has proved workable in practice; and it provides a basis for quality assurance within laboratories and between centres. This terminology should be followed in cervical cytology until further knowledge of the precursors of cervical cancer invokes change.

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- 1 Evans DMD, Hudson EA, Brown CL, *et al*. Terminology in gynaecological cytopathology: report of the working party of the British Society for Clinical Cytology. *J Clin Pathol* 1986;39:933-44.
- 2 Intercollegiate working party. *Report on cervical cytology screening*. London: Royal College of Obstetricians and Gynaecologists, 1987.
- 3 Kaufman R, Koss LG, Kurman RJ, *et al*. Statement of caution in the interpretation of papillomavirus-associated lesions of the epithelium of the uterine cervix. *Acta Cytol* 1983;27:107-8.
- 4 Brescia RJ, Jensen AB, Lancaster WD, Kurman RJ. The role of human papillomaviruses in the pathogenesis and histologic classification of precancerous lesions of the cervix. *Hum Pathol* 1986;17:552-9.
- 5 Singer A, Walker P, Tay SK, Dyson J. Impact of introduction of colposcopy to a district general hospital. *Br Med J* 1984;289:1049-51.
- 6 National Cancer Institute Workshop. The 1988 Bethesda system for reporting cervical/vaginal cytologic diagnoses. *JAMA* 1989;262:931-4.

Allergy to peanuts

Reactions may be severe and patients should be prepared

The standard advice to patients who know they have developed an allergy to a food is to avoid it. This is easy with oysters or strawberries but more difficult with foods such as peanuts, which may be present in small amounts in anything from a Veggieburger to a Chinese satay sauce.

On pages 1377 and 1378 two short reports describe five young adults who became acutely ill after eating meals containing peanuts. Two died, and all five knew that they were allergic to peanuts. Three patients did not realise that the food they had chosen contained peanuts, one was told—incorrectly—that the food did not contain nuts, and one ate the food by mistake. Peanuts are legumes rather than true “nuts,” and patients are more likely to be sensitive to related products such as peas, lentils, and soya bean than to other nuts. Despite this at least one of the patients reported or had had previous severe reactions to other nuts.

About one child in 100 has some form of food intolerance. Many grow out of it, but in others the intolerance persists into adult life and may worsen, with successive attacks being more severe. Serious reactions to foods such as eggs are well known, but the severity of reactions to peanuts seems to be less well recognised by the public and by doctors. Reactions to peanuts may be severe, usually occurring immediately after eating them. Urgent treatment may be needed if the patient's life is

to be saved. The most important element of treatment in severe cases is subcutaneous or intramuscular adrenaline—0.5 ml of an 0.1% solution—which is repeated after 15-20 minutes if necessary. Corticosteroids and antihistamines may be added to this treatment.

Patients who have had severe episodes may need to carry parenteral adrenaline with them.¹ Although reactions are rare in those who try to avoid peanuts, the cases described show that inadvertent ingestion may occur even in those who are careful. Patients must be encouraged to carry the drug to deal with these unexpected emergencies. The importance of this precaution is shown by the first patient, in whom the delay in returning to a hotel for the syringe proved fatal.

The severity of peanut allergy makes trial by exposure hazardous. The results of radioallergosorbent tests and skin prick tests together with a careful history provide adequate information to recommend lifetime avoidance of peanuts and peanut based products in such patients.

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1 Fries JH. Peanuts: allergic and other untoward reactions. *Ann Allergy* 1982;48:220-6.