month the American College of Cardiology publishes cassettes commenting in sound on slides of electrocardiograms which are sent out at the same time.

Even so, the gramophone record has not been completely superseded, for the accurate reproduction of some sounds needs higher frequencies than can be recorded on to tape. We have greatly benefited from listening to a series of records of cardiac auscultation made by Professor Ravin of the Medical School at Colorado. A remarkable degree of acoustic fidelity can be obtained by using electronic simulation of heart murmurs. The various superimposed murmurs may be separated and played individually before being combined together as in the actual patient. Moreover, the way in which the murmurs change over the years may be reduced into the space of a few minutes. The set of recordings is published with a booklet so that one can follow the electrocardiogram and the ballistocardiogram at the same time. This is an example of how technology is better in some respects than clinical teaching at the bedside.

Television

Though in several countries medical television on the public channels has had some interesting achievements to its credit, it can only partially deal with the needs of the specialist in internal medicine. Not only are the programmes too few and far between,

but they have had to aim at too wide a medical audience, and have often been screened at inconvenient times.

The year 1971, however, will go down as the year when videotapes were introduced. Undoubtedly these will revolutionize many subjects, including that of continuing education in medicine. Already cassettes are available for feeding into a separate decoder attached to a television receiver. The next step will be to introduce television receivers which incorporate readers, so that one merely drops a videocassette into the appropriate slot. Several European, American, and Japanese firms are already actively engaged in marketing decoding equipment, though there are problems of standardization. Undoubtedly its price—at present, £200 sterling—will gradually decrease. A lending system for videocassettes and videorecords will make them available to all. The market in many fields, including that of education, is vast.

On 26 February 1971 six leading European publishers met in Zürich and founded an association for publishing audiovisual cassettes which would also constitute a collecting house of ideas and information. In medicine itself from 1 July a leading German publisher is to market an audiovisual magazine. Subscribers to it will receive twice every month for a period of a fortnight, two programmes lasting one hour each, with eight minutes of pharmaceutical advertising. The cost will be £1.50 per cassette of an hour. In the future one may foresee editions devoted to the needs of different specialties.

Gynaecology in General Practice

Management of Abnormal Bleeding

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Treatment

This article will deal with the management of patients with abnormal bleeding in the reproductive phase in whom organic disease has been carefully excluded by clinical examination and special investigations. Thus, essentially the problem is of dysfunctional uterine bleeding, and, generally speaking, if conservative therapy is well judged and the patient is co-operative spontaneous remission will occur sooner or later. Dysfunctional bleeding around the menopause is increasingly being treated by hysterectomy. This approach is due not only to the possible association of this type of bleeding with malignancy but also to the risks of hormone therapy and the inconvenience of conservative management, as well as the improved techniques of vaginal and abdominal surgery. Radiotherapy is still used to produce an artificial menopause. Though preliminary curettage is mandatory, this technique has the advantage that operating time and convalescence in hospital are shorter than with hysterectomy. On the other hand, ovarian function is destroyed and menopausal symptoms are common. About 1% of patients are subsequently found to have cancer, partly owing to failure of diagnosis at the time of irradiation. Damage to the bladder and

rectum may occur, but with good technique this should be rare. Late sequelae are pyometra and haematometra, while in younger women the sterilization may not be permanent.

HORMONE THERAPY

Oxytocic drugs such as ergometrine and pitocin have no place in the management of dysfunctional bleeding. Androgens had a vogue, whether given alone or mixed with oestrogens. They have no special therapeutic advantage, and now that patients with atypical endometrial hyperplasia are known to secrete excessive amounts of androgen there seems to be a definite contraindication to their use.

Though oestrogens and progestogens have been used for a long time, their real popularity in the management of dysfunctional bleeding coincided with the development of the contraceptive pill. The dose required to prevent conception is much less than was at first thought necessary, and the contraceptive pills now prescribed for dysfunctional bleeding may not be sufficient to control the abnormal cycles. Although the hazards of these drugs appear to be related to dose, the length of time for which they are given in dysfunctional bleeding is limited and the use of higher dosages in carefully selected patients is justified. The regimen employed must be adjusted to the individual patient, but in many cases a combined pill given for a few cycles from the fifth day of bleeding for 21 days will be effective. In general, the daily dose of oestrogen should not exceed 0.05 mg of ethinyloestradiol or mestranol, but a

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dose of 0.1 mg may be necessary. The dosage of progestogen may be varied much more widely; it is usually sufficient to give norethisterone, 1-5 mg or its equivalent, along with oestrogen for 21 days.

The available sequential pill would seem to offer more physiological therapy, consisting of oestrogen tablets for sixteen days followed by a combined pill for five days. Even better, however, would be to take oestrogen tablets for 9 days and a combined pill for 12 days. This regimen would be particularly valuable for patients with either threshold bleeding or incomplete maturation of the corpus luteum. If the latter were complaining also of infertility progestogen alone should be given from the approximate time of ovulation.

Progestogens alone are also effective in metropathia at puberty and around the menopause. Norethisterone, 5 to 15 mg given for five days, will stop the bleeding and be followed by a complete stripping of the endometrium—the so-called medical curettage. After this progestogen alone should be given daily from the 12th to the 26th day for a few cycles. Alternatively a combined tablet can be given from the fifth day for 21 days. It is important to warn the patient that she may have heavy bleeding after the initial five-day high-dose progestogen treatment; otherwise she may imagine that the tablets have not been effective.

ANTIFIBRINOLYSIN THERAPY

The antifibrinolytic agent aminocaproic acid (E.A.C.A.) has been used in the treatment of dysfunctional bleeding since 1965.^{1 2} A daily dose of up to 25 g was found to be necessary, and at this level there was an appreciable number of side effects such as nausea and faintness. Tranexamic acid (Cyclokapron) has been developed more recently, and is effective in lower dosages and apparently not accompanied by such severe side effects.^{3 4} We have used a daily dosage of 4 g but found that the blood loss was not completely restored to normal and that higher dosages should be tried.

The antifibrinolytics have the advantage that they do not interfere with reproductive function and can be used when

hormones are contraindicated. Nevertheless, work in animals has shown that they may be teratogenic, so that treatment should not be started before the first day of the menstrual flow. Moreover, though no cases of thromboembolism have yet been reported, this is a theoretical possibility.

Postmenopausal Bleeding

Postmenopausal bleeding is usually defined as bleeding occurring six months after the menopause. One-fifth of the cases are due to malignancy, and we have already mentioned carcinoma of the cervix and endometrium, the rare sarcomas of cervix and uterine body, and oestrogen-producing tumours of the ovary. Carcinoma of the vulva and vagina are usually clinically obvious, but because it is rare and concealed carcinoma of the Fallopian tube is easily missed. Classically it presents as a watery discharge which may be blood-stained and by this time a mass is usually palpable. It is worth emphasizing again the danger of accepting obvious lesions such as polypi, caruncles, and vaginitis as the definitive cause without further investigation, and the pitfall of overlooking bleeding in patients having oestrogen therapy for menopausal symptoms.

There is no evidence that prolonged oestrogen therapy after the menopause causes carcinoma and this treatment given to postpone the signs of ageing is becoming more popular. Confusion may arise, however, because of the occurrence of irregular bleeding; this can be resolved by observation after stopping the treatment or more quickly and certainly by curettage.

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One Hundred Years Ago

The New St. Thomas's Hospital

From the British Medical Journal, 24 June 1871

The opening of the new St. Thomas's Hospital by Her Majesty in State took place on Wednesday, as announced, and was an occasion of great ceremony. Her Majesty was accompanied by many members of the royal family, attended by a brilliant suite and by most of the members of the Cabinet. The chief dignitaries of the Church and State were assembled to receive her, and the benediction was pronounced by the Archbishop of Canterbury. The invitations included a large number of distinguished members of the profession in London; and the Presidents of the Royal Colleges of Physicians and Surgeons were assigned prominent positions in the central hall. A large number of old St. Thomas's men were among the privileged spectators in the corridors. A hospital does not, from the necessities of its architecture, usually possess any single great

apartment well suited to occasions of state; and the most had to be made of the limited space of the central hall. The ceremony there was, however, brief; its only specially interesting feature being the conferring of knighthood on Mr. (now Sir) Francis Hicks, the Treasurer—an honour which everyone felt to have been arduously earned and to be well deserved. The Queen is always at home in an hospital; and her visit to the two wards which she was personally to name was by no means a mere going to the door, but included a complete tour of each room and inspection of its proportions and aspect, and of the view from the windows. In each ward, her Majesty, before leaving it, desired Sir Francis Hicks to inform the suite who accompanied the royal party, that Her Majesty was graciously pleased to name the wards—the one "Victoria", and the other "Albert".