

THE

PHARMACIST

---

Journal of the Chamber of Pharmacists - Trade Union

---



---

No. 5

JANUARY 1983

---

For 25 years  
the first choice of doctors

# CERUMOL<sup>®</sup>

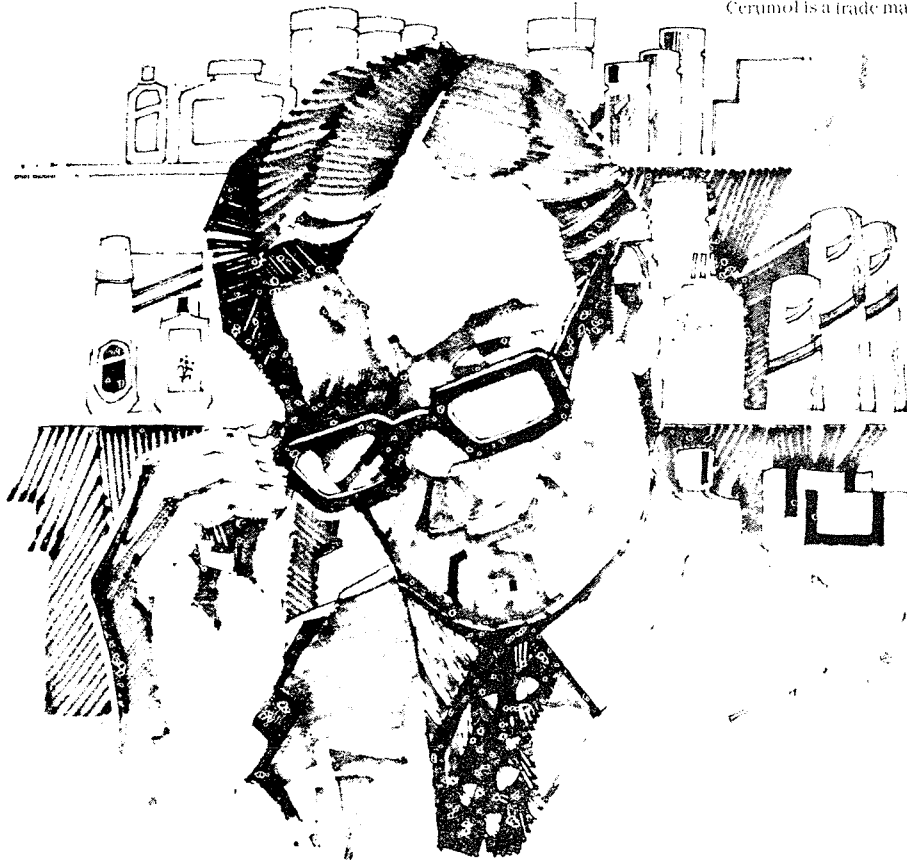
the most effective way of loosening ear wax

CERUMOL is also available to customers over the counter. When your customers ask your advice about 'blocked ears', you know you can recommend CERUMOL with confidence.

*proven in practice*



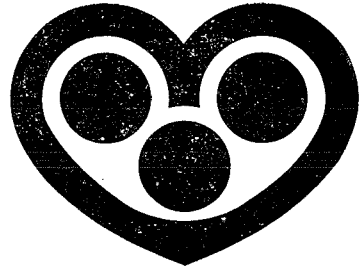
Cerumol is a trade mark



*Local Representatives:*

KEMIMPORT LTD., 20, Republic Street, Valletta. Tel: 29310

**Calcium antagonism**  
**a new principle**  
**in the therapy of ischaemic**  
**cardiac diseases.**



**Isoptin<sup>®</sup>**

calcium antagonist

reduces  
myocardial  
work

reduces  
peripheral  
vascular resistance

decreases  
myocardial  
O<sub>2</sub> consumption

decreases  
myocardial  
O<sub>2</sub> consumption

relieves coronary circulation

improves exercise tolerance

**Indications**

Acute and chronic coronary insufficiency; prophylaxis and follow-up treatment of myocardial infarction; prophylaxis of relapsing tachyarrhythmias, such as paroxysmal supraventricular tachycardia, atrial fibrillation and flutter with rapid ventricular response, extrasystoles. In patients with chronic atrial fibrillation for the medicamentous conversion to and maintenance of sinus rhythm in combination with quinidine.

**Please note!**

In manifest cardiac failure compensation with cardiac glycosides is necessary prior to the administration of Isoptin.

**Dosage**

Adults are usually given 1 to 2 dragées of Isoptin 40 mg or Isoptin S 3 times daily depending on indication and severity of the disease. If necessary, the dose may be increased for a brief period.

**Composition**

Isoptin is  $\alpha$ -isopropyl- $\alpha$ -([N-methyl-N-homoveratryl]- $\gamma$ -aminopropyl)-3,4-dimethoxyphenyl-acetonitrile.

**Trade packs**

**Isoptin<sup>®</sup> 40 mg**

50, 100 and 500 dragées

**Isoptin<sup>®</sup> S (with pentobarbital)**

50 and 100 dragées

**Isoptin<sup>®</sup> ampoules**

5 ampoules of 2.2 ml each



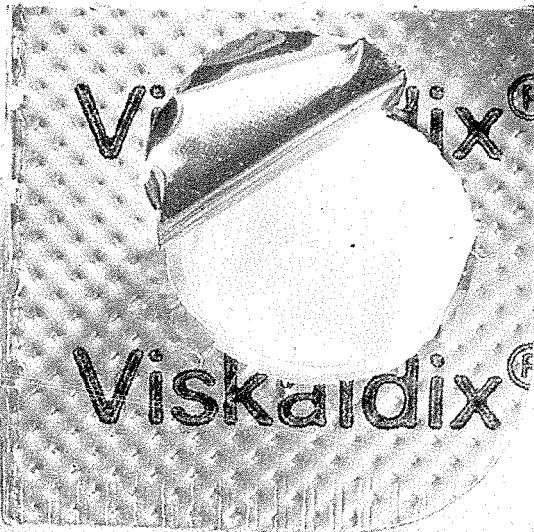
**KNOLL AG** CHEMICAL WORKS, LUDWIGSHAFEN-ON-RHINE, GERMANY

Agent: Joseph Cassar Ltd., 54, Britannia Street, Valletta/Malta

Treat hypertension with

# Viskaldix<sup>®</sup>

one tablet daily



**Betablocker + Diuretic  
in a single tablet**

The results of a large, open study<sup>1</sup> carried out by approximately 4000 general practitioners in 8989 hypertensive patients confirm the findings of earlier investigations in showing that the combination of 10 mg of the beta-adrenoreceptor blocking agent pindolol and 5 mg of the diuretic clopamide in a single tablet is a very effective treatment for mild to moderate hypertension in patients of all ages. Only one tablet daily was required by 83% of the patients.

<sup>1</sup> "Current Medical Research and Opinion", Vol. 6, No. 5, 1979, pages 342-350 Crowder, D. and Cameron, E. G. M.

**SANDOZ**

Switzerland  
Sole Agents: V.J. Salomone Ltd.,  
10, South Street, Valletta

Composition:  
Each tablet contains 10 mg pindolol / 5 mg clopamide.

# THE PHARMACIST

Journal of the  
Chamber of Pharmacists — Trade Union

## CONTENTS

No. 5, JANUARY 1983

Editorial ... ..	5
Union News ... ..	6
Local News ... ..	8
Heparin — Its use in Thromb-Embolic Disease ... ..	9
Essential Pharmacy Competencies ... ..	10
University Spectrum ... ..	11
Allergy ... ..	12
Research:— Anti-Leukotrienes ... ..	14
Pharmacists of Old ... ..	16
The Unit Dose Drug Distribution System ... ..	22
Community Pharmacy — Oral Contraceptives ... ..	23
Research:— Male Oral Contraceptives ... ..	25
Letters to the Editor ... ..	27

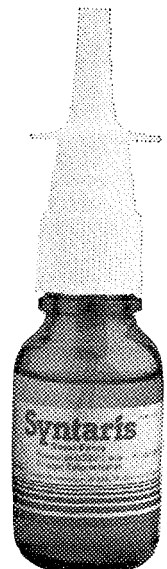
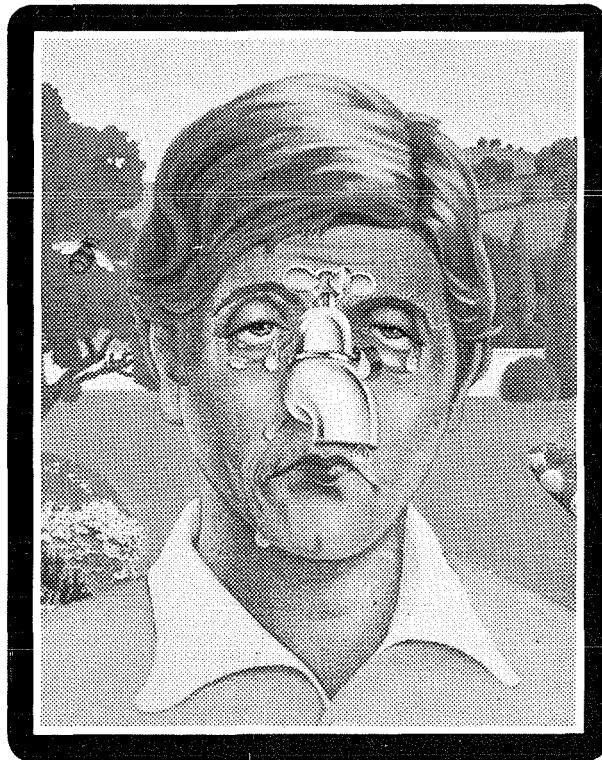
Correspondence or articles for publication should be addressed to The Editor, The Pharmacist, Federation of Professional Bodies, 1, Wilga Street, Paceville.

Opinions expressed in this journal are not necessarily those endorsed by the Chamber.

---

# Syntaris

**The fastest-  
growing nasal spray  
used for  
allergic rhinitis.**



Sole Agents: V.J. Salomone Ltd.  
10, South Street, Valletta. Tel: 28026



## **EDITORIAL**

# **PROFIT FREEZE**

A profit freeze has been proposed in the budget currently being passed through Parliament. Because of the uniqueness of the practice of the pharmacy profession, — the profession cum business prevalent in retail pharmacy — pharmacy is the only profession concerned about the issue.

The profit margins for pharmacies have been fixed for a long time: 7½% on baby foods, 20% on medicines, 25% on parapharmaceutical, and 33% on cosmetics. The margin of 33% is meant to compensate for the low percentage allowed on baby foods and medicines. The aim of the low percentage on baby foods and medicines is to keep the cost of these two items down, since both are essential items.

From the point of view of the nonpharmacist pharmacy owner, the above argument is a most valid one since his primary concern is to get a suitable return from his investment.

Thanks to the great efforts made by the pharmacy section of the G.R.T.U. there will be little changes in the profit margins of the items concerned, to the benefit of all involved in retail pharmacy.

# **THE PROFESSION**

There are however, other aspects to the above argument. In being humanitarian and accepting the above rationale, the pharmacist has accepted the fact that he cannot make a living as a community pharmacist out of his profession. The role of the community pharmacist is the dispensing and rotation of stocked medicines according to expiry dates, advising the patient on dosage, diet, side effects, and drug interactions, which advice is essential in ensuring the safe and optimal use of drug therapy. As things are at present, he not only has no professional fee, like other professionals, but is forced to sell other items to earn a living.

Also, any businessman can open a cosmetic shop next to a pharmacy and enjoy the higher profits on the parapharmaceuticals and cosmetics, while eroding the profitability and endangering the livelihood of the pharmacist next door, or forcing him to commercialise to such an extent, that he will have less and less time for dispensing and patient counselling, his primary scope of existence as a pharmacist.

In conclusion, it must therefore be said that the current situation is acceptable if, we are to keep the status quo, but if as pharmacists our profession comes first and we believe in the increasing clinical involvement of the pharmacist even in community pharmacy, then the only way into the future is by ensuring that the pharmacist will be able to earn a living out of his profession.

### **EDITOR:**

Ms. M. CARDONA, B.Pharm.

### **EDITORIAL BOARD:**

Ms. M.A. CIAPPARA, B.Pharm.

Ms. M. GATT, B.Pharm.

Mr. A. SANT PORTANIER, Ph.C., B.Pharm.

## **UNION NEWS**

### **SUCCESSFUL INTERVENTION**

On Thursday 16th September, the Chamber wrote a letter to the Police Commissioner on behalf of Pharmacist Debono, a member of the Chamber re the opening of his pharmacy, Brittanica Pharmacy in Birzebbugia. On Monday 20th September, Mr Debono was allowed to reopen his pharmacy for normal work.

### **EXTRAORDINARY GENERAL MEETING**

The Chamber of Pharmacists — Trade Union held two extraordinary general meetings on Thursday 29th July and on Monday 2nd August to discuss the closure of pharmacies. Both meetings were open to non-pharmacist pharmacy owners.

### **REMARKABLE ATTENDANCE!**

On the 1st of October the Chamber organised a reception for the newly graduated pharmacists to welcome them to the profession and introduce them to the activities of the Chamber. The council of the Chamber was impressed by the poor attendance and hopes that greater interest in the Chamber's activities will be forthcoming from these new graduates in the future.

### **CHRISTMAS RECEPTION**

On December 7th the Chamber held a cocktail party for its members and their guests at the headquarters of the Federation of Professional Bodies, Paceville, in lieu of the usual Christmas Dinner. The Chamber would like to thank all those who attended thus making the event a success. Also present for the occasion, was Dr. R. Vella, Vice-President of the Federation of Professional Bodies.

# **COLLIS WILLIAMS**

**300, REPUBLIC STREET,  
VALLETTA**

**Tels: 24104, 624567**

**Telegrams: "Colliams" VALLETTA - MALTA**

**MANUFACTURERS' REPRESENTATIVES  
IMPORTERS & WHOLESALEERS OF  
TOILET PREPERATIONS  
PHARMACEUTICAL PRODUCTS  
CHEMICALS, DRUGS,  
AND ALLIED LINES**



## **PHARMACY IN THE PRESS**

On October 14th, the Chamber issued a press release asking for the commencement of a pharmacy course in 1983. Reference was made to the representations made to the Hon. Minister of Education in September by a delegation from the Chamber. The Minister's excuse against the commencement of a course in February 1983 was the lack of private sponsors.

The Chamber expressed its surprise that the Minister could persist in his ideas about the course of pharmacy when he knew, from a detailed report prepared by a committee set up by the Hon. Minister himself when the pharmacy course was restructured, what the country's requirements for pharmacy were. "Sponsors or no sponsors, the government is in duty bound to see that our university produces what the country requires. The local demands for community pharmacists could not be met during the last four years. Almost all pharmacists recently qualified have joined the government pharmaceutical services according to the terms of their contract. All pharmacy students in the course of pharmacy that commenced in February 1982 are government sponsored, and this means that no pharmacists will be available for community pharmacy when the present students graduate in 1986. Almost 50% of our pharmacies are being run by unqualified staff, and this to the great detriment of our people and contrary to all international trends during times when drug abuse is on the increase, both nationally and internationally".

On November 11th, Dr. Saliba, went so far as to say in Parliament, that pharmacists 'were in fact only glorified salesmen, not having to compound medicines as they used to, because everything came in bottles. All they did today was to decipher a doctor's handwriting'. On November 20th again in Parliament, the Chamber was accused of not providing private sponsors.

The Chamber issued another press release on November 26th, in reply to the above mentioned parliamentary comments, where it reiterated its belief in the regular commencement of the pharmacy course. "The Chamber is aware that it is very difficult to find private sponsors for university students, particularly when so much uncertainty on the regular commencement of the course exists. In the past the Chamber strove to find sponsors for pharmacy students and in fact found a number of private sponsors for the course starting in February 1982 — but government decided to sponsor all the eligible students thus eliminating the private sponsors".

"The Chamber considers it unbelievable that with drug abuse on the increase, a representative of the people seems to be suggesting that pharmacies can do without the services of a professionally qualified person".

The press release concluded by outlining the pharmacist's role in today's world.

## LOCAL NEWS

### PHARMACY DEPARTMENT

Once again the Pharmacy Department of the University of Malta is being run by a non pharmacist. This came about recently when the acting head of the Department was replaced by Prof. Gatt, a pathologist. It is hoped that a suitable qualified pharmacist will once again be head of the department of pharmacy in the near future.

### PROFESSIONAL DIRECTORY

The Council of the Federation of Professional Bodies has agreed to issue a professional directory which will be available to the general public at a cost of 50c per copy. The fee for inclusion in the directory is £M2 per professional person. Those interested should send their name, address (home and office) and telephone number (home and office) together with the prescribed fee of £M2 by not later than the 21st February.

Any articles, letters to the editor or adverts for the next issue are to reach the Editorial Board by not later than the first week of March.

### MEMBERSHIP FEE

All pharmacists are reminded to pay their membership fee for the year 1983. Please send your membership fee of £M5 to the Treasurer, Chamber of Pharmacists, Trade Union, c/o 1, Wilga Street, Paceville, as soon as possible.

# idim

*Specialised body care range  
including:*

**RAXSENE** — Bust firming  
lotion

**CELLITENE O<sup>2</sup>** — Fat  
Reducing  
bubble  
bath

**STRIASE** — Anti stretch  
marks cream

**RAXODAN** — Muscle  
firming  
cream

**ARICOSE** — Covers veins  
on legs

**ABRON** — Self tanning  
lotion

For all information, leaflets and  
samples phone:

**MEDIMPORTS tel: 41658**

# HEPARIN-ITS USE IN THROMBO-EMBOLIC DISEASE

by ANTHONY GATT B.Pharm.

The essential factors of risk leading to thrombo-embolic conditions are:— age above forty, obesity, cancer, phlebitis and the contraceptive pill.

The last ten years have seen an up-surge of interest in the use of heparin to prevent venous-thrombo-embolic disease. Clinical trials have established that low dose heparin provides effective prophylaxis not only against deep vein thrombosis but also against deaths from post-operative pulmonary embolism.

The benefit of low dose heparin prophylaxis is not limited to surgical patients only. In acute myocardial infarction, a similar reduction of venous thrombosis has been observed with the use of low dose heparin. Similarly, heparin has been shown to reduce the incidence of deep vein thrombosis in patients confined to bed following an acute stroke. These findings suggest that patients with any medical disease requiring prolonged bed rest, 'at risk' of developing thrombo-embolic complications, would be equally benefitted by low dose heparin prophylaxis.

Heparin, unlike oral anticoagulants, does not cross the placenta. Hence, it is safe to use during pregnancy. This makes heparin the drug of choice to treat acute venous thrombosis with or without pulmonary embolism in pregnant women.

## Preparations of Heparin

There are two types of heparin available on the international market: calcium and sodium heparin. The sodium heparin is preferred due to:—

a) longer duration of action, thus it can

be used on twelve hour regimes (calcium heparin has an eight hour regimen).

- b) less painful at time of injection.
- c) lower cost.

## Toxicity and Side Effects

Heparin is relatively non-toxic, thrombocytopenia, anaphylactic reactions, alopecia and osteoporosis are rare. The chief danger of heparin is haemorrhage. Mild haemorrhage responds to simple withdrawal of the drug. In severe haemorrhage, protamine sulphate has to be administered. 1.0 mg of protamine has to be given to antagonize 100 units of heparin.

## Contra-Indications

1. patients with bleeding tendencies
2. threatened abortion
3. suspected intracranial haemorrhage
4. subacute bacterial endocarditis
5. inaccessible GIT ulcers
6. visceral carcinoma
7. regional or lumbar block anaesthesia
8. severe hypertension
9. tube drainage of stomach and small intestine
10. heparin hypersensitivity
11. shock
12. before or after eye, brain, and spinal cord surgery.

Like all prophylactic therapy, large numbers of patients have to be treated to benefit the relatively few, who would otherwise have suffered from overt di-

(continued on page 29)

## PHARMACY EDUCATION

# ESSENTIAL PHARMACY COMPETENCIES

The Commonwealth Pharmaceutical Association considers that the entry level for pharmacists in the Commonwealth should be the baccalaureate (bachelor's) degree. A list of the 'essential pharmacy competencies' for all first degree pharmacy students has been established by the faculty of the Duquesne University school of pharmacy and is given below.

1. Evaluates the chemical, physical, and bioequivalency of multisource drugs.
2. Interprets and evaluates accuracy and completeness of prescription order.
3. Selects appropriate ingredients, products, brand and dosage form for drugs to be dispensed.
4. Prepares prescription accurately by measuring, counting or transferring the medication.
5. Provides appropriate label information for prescriptions to be dispensed.
6. Evaluates OTC drug products.
7. Consults with patients on the selection, use and effects of OTC drugs.
8. Evaluates the relative therapeutic use of medical-surgical devices and supplies.
9. Counsels patients in the selection, storage, and use of medical-surgical devices and supplies.
10. Consults with patients regarding the uses and effects of legend drugs as related to their specific needs.
11. Identifies and locates appropriate drug information.
12. Evaluates and interprets pharmaceutical and medical literature.
13. Evaluates drug therapy.
14. Monitors drugs therapy.
15. Provides limited emergency first aid treatment and cardiopulmonary resuscitation.
16. Provides patient with access to poison control and treatment information.
17. Refers patients to other health care professionals and agencies.
18. Communicates effectively and participates cooperatively with other health team professionals.
19. Complies with all pharmacy practice laws, drug laws, pharmacy practice regulations, and drug regulations.
20. Demonstrates a knowledge of professional practice standards and codes of ethics.
21. Demonstrates appropriate professional practice standards and codes of ethics.
21. Demonstrates appropriate professional responsibility and judgement in interpretation of laws and regulations.
22. Applies principles of good management practice to pharmacy personnel.
23. Applies principles of good management practice to pharmacy inventory control.
24. Applies principles of good management practice to pharmacy fiscal matters.

25. Applies principles of good management practice to pharmacy operations.
26. Performs drug control, storage and drug security functions in drug distribution.
27. Demonstrates basic knowledge of the nature and treatment of disease.
28. Demonstrates knowledge of the physical, chemical and bio-pharmaceutical characteristics of drugs that influence the routes and ultimate effectiveness of drug administration.
29. Demonstrates knowledge of the principles of nutrition and their relationship to drug use.
30. Explains characteristics and procedures of pharmacy practice according to types, roles and settings.
31. Prepares medication accurately by compounding the prescription.
32. Performs bulk compounding of ingredients according to legal and professional standards.
33. Demonstrates knowledge of psychosocial correlates and consequences of illness.
34. Demonstrates a knowledge of the relationship of pharmacy to the national health system.
35. Demonstrates a knowledge of public health problems, agencies, preventive strategies, and epidemiological research.
36. Demonstrates an understanding of the etiology, symptoms, mode of transmission, treatment and prevention of infectious diseases.

## UNIVERSITY SPECTRUM

The Final B.Pharm. examinations were held last July. The External Examiner was Prof. D.W. Mathieson, Professor of Pharmaceutical Chemistry, Head of the Pharmacy School and Dean of the Faculty of Life Science at Bradford University. Two students, Miss Doris Farrugia and Mr Frankie Zammit gained First Class Honours, nine students a Second Class Upper, eight students a Second Class Lower, four students a Third Class and one student a Pass Degree. The 16 Pharmacy Student Workers sponsored by Government and who have completed their studies last July have all been appointed by the Department of Health as Pharmacists. For the first time, the Government Pharmaceutical Service include 20 qualified pharmacists.

On 1 September the second group of First Year Students embarked on their study phase. These students will complete their studies by the end of January and will sit along with the first group for their Part I examinations in February.

The Department of Pharmacy is giving its assistance in the organisation of the Annual General Conference of the Institute of Pharmacy Management which is being held in Malta during the last week of October. The Head of the Department, Mr A. Scicluna-Spiteri is establishing a local branch of the Institute and any pharmacists who would like to join are kindly invited to get in contact with him.

# ALLERGY

by MARIA GATT, B.Pharm.

Allergy is immunity gone wrong. Different people are allergic to a wide range of seemingly unrelated substances, but, the list of common allergens is curiously consistent. The pollen of ragweed is one of the first known allergens, while the connection between intestinal distress and one food, milk, was recognised more than 2 centuries ago. Most drugs are too small (mol.wt less than 1,000), to be able to stimulate an allergic reaction, but they can act as incomplete antigens or 'haptens' which become complete antigens in combination with a body protein. The penicillins and the sulphonamides are two classes of drugs which frequently cause an allergic reaction. Cross allergy within a chemical group is usual, while allergy between two chemicals of similar structures such as penicilins and cephalosporins is also usual. The most common manifestations are rhinitis, asthma, and skin rash, depending on the site of contact with the allergen. Allergy to food is less common than allergy to airborne materials but its true incidence is unknown because food induced symptoms are often less well defined than the hay-fever and asthma induced by airborne allergens, while cases of contact dermatitis caused by modern chemicals are on the increase.

## Mechanism

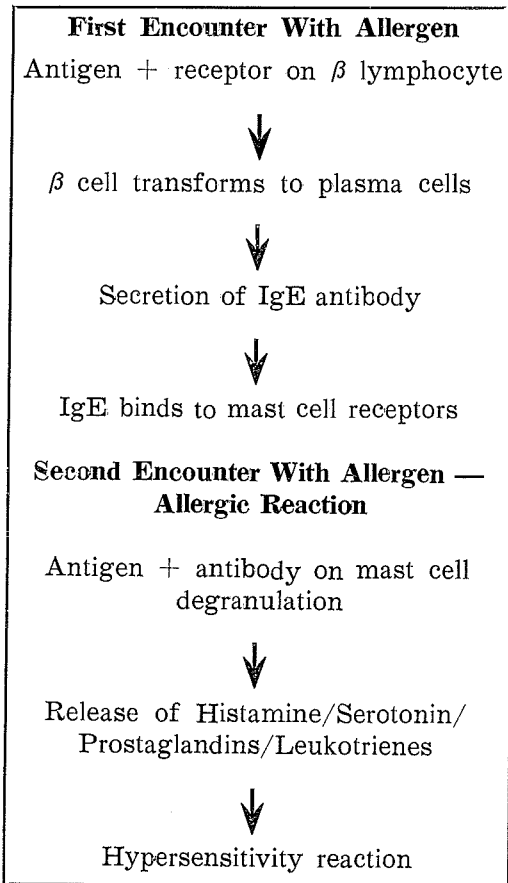
The mediators of hypersensitivity reactions are the  $\beta$ -lymphocytes. Clones of  $\beta$ -lymphocytes carry receptors on the surface, which are specific for the antibody which they are prepared to synthesise in quantity. When an antigen binds to such a receptor it triggers the transformation of the cell. The cell proliferates and differentiates to form a clone

of plasma cells in which the protein synthesising structure called the endoplasmic reticulum is greatly enlarged. The plasma cells synthesise and secrete into the bloodstream millions of identical antibody molecules, thus generating a humoral immune response. The antibodies involved in hypersensitivity reactions belong to the IgE class of immunoglobulins. When specific antibodies are synthesised in response to the binding of an allergen they move through the bloodstream to mast cells in connective tissue and become firmly fixed to the receptors on the surface of the mast cells. As yet, however, there is no allergy reaction, that comes only when the individual next encounters the same antigen.

On second contact, the antigen need not go through the process of triggering  $\beta$  cells to transform. It goes straight to the IgE fixed to mast cells and binds to the antibody. As a result, the mast cell degranulates, the granules moving to the surface of the cell and releasing their content to the surrounding tissue. Calcium ions are needed for this degranulation to take place. It is the binding of the antigen with the antibody, which makes the cell membrane more permeable to calcium ions. The degranulation which results, leads to the release of histamine, serotonin, and chemical factors that activate blood platelets and attract the white blood cells called eosinophils, and also phagocytic cells.

Two other important groups of potent biological mediators are:— the prostaglandins and the leukotrienes, which are not only synthesised in mast cells, but also in several kinds of leukocytes. The prostaglandins and the leukotrienes are important factors in many nonallergic

conditions too. In allergy they join with the mediators liberated from the mast cell granules to give rise to the contraction of smooth muscle in the airways or the intestine, the dilatation of small blood vessels and an increase in their permeability to water and plasma proteins, the secretion of thick, sticky mucus, and (in the skin), the stimulation of nerve endings which results in itching or pain.



### Treatment

Knowing the mechanism of allergy and identifying the allergen is important medically if patients are to be relieved of their symptoms and if possible advised on ways of preventing the allergy. Lack of previous exposure is not the same as lack of history of previous exposure. In

the case of medicines, exposure is not necessarily medical. For example, the penicillins occur in dairy products following treatment of cattle, and penicillin antibodies are commonly present in those who deny having received the drug. The fact that antibodies are produced however, does not mean a patient will necessarily respond to re-exposure with clinical manifestations.

The old maxim that prevention is better than cure is the best advice to follow. If a patient says he is allergic to some drug, then that drug should **not** be given without careful testing. However, in the case of other allergens, it is not always possible to avoid contact. Using hypoallergenic cosmetics is easy, but it is hardly possible to escape from the abundant pollen in spring time.

**Desensitisation** is possible, but it is not easy to prepare desensitisation vaccines in a sufficiently pure state and with standardised potency on a commercial scale. Also, the injections can generate severe local or systemic allergic reactions, which, in rare instances can be fatal.

**Aspirin** has been found to be useful in some cases of intestinal food allergy. It has been shown that such allergies are prostaglandin mediated. For this reason some patients who have been regularly treated for ulcerative colitis by sulphasalazine, a combination of sulphapyridine and 5-amino-salicylic acid, an aspirin analogue have found that taking aspirin before eating and drinking the irritant foods prevented the development of symptoms. However, not all allergies are mediated by prostaglandins. Indeed, aspirin or its analogues may actually provoke asthma in susceptible individuals.

Histamines appear to play an important role in skin rashes hence the very extensive use of **antihistamines** both orally and systemically in such condi-

tions. Antihistamines also provide relief in hayfever where the symptoms of itching of the eyes, sneezing and the secretion of water (tears and runny nose) are largely histamine mediated. In asthma, however, antihistamines have no effect and, as already mentioned, though some prostaglandins have a constrictive effect on the larger bronchi, aspirin, either has no effect or makes the asthma worse. It is the leukotrienes, which have been shown to have a constricting effect of a hundred to a thousand times that of histamine or prostaglandins in constricting the airways of the bronchial tree, that are now thought likely to be the most important mediators in asthma. So far, no antileukotriene drug is available.

**Sodium cromoglycate** is often prescribed for the treatment of hay fever and allergic asthma. It is thought to work by preventing the entrance of calcium ions into mast cells, hence forestalling the chain of events leading to degranulation. For this reason, the drug must be given in the very early stages before degranulation has had time to take place. Once the chain of events has started, treatment to counteract the mediator's actions is used. This may take the form of bronchodilators, like isoprenaline, mucolytics and expectorants which will help to clear the bronchi of the mucus which accumulates in them. In severe cases of allergy, as in severe cases of allergic asthma, or severe contact dermatitis accompanied with weeping skin conditions, corticosteroids may sometimes have to be used.

#### **Inheritance**

The exact mechanism of inheritance is not known. The genetics is complicated by the fact that allergy exhibits incomplete penetrance or variable genetic expression. For example, 2 people may

(Cont. on page 29)

## **RESEARCH**

### **ANTI-LEUKOTRIENES — NEW TREATMENT FOR ASTHMA?**

In the late 1930's, a substance was found in the extracellular fluid of the lungs which caused a slow, long lasting, and profound constrictions of the airways in experimental animals.

In the past three years, the substance, SRSA (slow reacting substance of anaphylaxis), has been shown to consist of a mixture of three substances with an unusual Chemistry. They are thioethers: fatty acids linked by one or more aminoacids. Their structure has been worked out by Bengt Samuelson of the Karolinska Institute in Stockholm, who called them leukotrienes because they are made by leukocytes and have three conjugated double bonds in their parent molecule. The chain of reactions by which leukotrienes are synthesised is initiated by lipoxygenase. Several leukotrienes have been isolated, A<sup>4</sup>, B<sup>4</sup>, C<sup>4</sup>, and D<sup>4</sup>. The mixture of leukotrienes C<sup>4</sup>, D<sup>4</sup>, and E<sup>4</sup>, constitutes SRS —A.

The leukotrienes are from 100 to 1000 times as potent as histamine or the Prostaglandins in constricting the smallest airways of the bronchial tree. So far no antileukotriene drug is available. However, now that the structure of these mediators is known, intensive efforts are under way to find agents that can block their synthesis or their activity. The discovery of such a drug would be a major advance in the treatment of asthma.

(Scientific American,  
Aug. 1982, Vol. 247)





*The first oral long-term asthma prophylactic  
Convenient twice-daily dosage*

Zaditen® – in a dosage of 1 mg twice daily over several weeks – reduces the frequency, severity and duration of asthma attacks.

Zaditen® therapy means less or even no symptomatic therapy, e.g. bronchodilators or oral steroids.

Composition:  
Each capsule contains 1 mg ketotifen  
Each ml syrup contains 0.2 mg ketotifen

**WANDER**

Wander Ltd., Berne, Switzerland

Sole Agents: V. J. Salomone Ltd., 10, South Street, Valletta

# PHARMACISTS OF OLD

(Continued)

CHEV. J. BORG, K.M., Ph.C., L.P., F.R.S.H., F.I.N.T. Pet.

46. Pharmacist Joseph Portelli from Valletta, who remained known for his illustrious son Gavino-Patrizio (1795-1865) Professor of Surgery and Anatomy at the University (22.11.1822-1838).
47. Pharmacist Pascal Balzan of Floriana on 8th February 1764. He was an energetic but foolish man: in December 1772 he took part, along with the Professor of mathematics Dr. Philip Zammit, M.D. (1720-1796) and the district medical officer of Valletta/Floriana in a plot against the rule of the Order. As he was also a cleric in minor orders not for love of the Church but as an easy means to escape punishment from the Knights' civil authority, he remained free. Three years later he was also one of the nine ecclesiastics who took part in the so-called "Rising of the Priests" under Reverend Gaetan Mannarino of 9th September 1775 at the time of Grand Master Fra Francis Ximenes de Taxada (1773-1775). With three other companions he occupied St. James Cavalier, but was soon taken captive, tortured at the "Castellania", put to death by strangling, decapitated and his head, along with those of two other accomplices, placed on poles at top of said Cavalier. No more accused were killed. (cf. Arch. No. 1190, Section 461/466 and Arch. No. 1191, Section 69/83 of 29th August 1766 by the Medical Council about him).
48. Pharmacist Francis Pisani from Senglea (1763-20.2.1799), who was married to Theresa, the niece of compatriot Reverend Professor Michael Xerri of Zebbug, Malta, the ringleader of the Maltese uprising against the French rule in 1798, and who, together with his friend Dr. Michaelangelo Adriano from Senglea, were the very first to conspire against Napoleon's rule here, were on 3rd August 1798, unfortunately reported to the foreign rulers by the rogue Simon Bezzina and imprisoned, were however released on 10th August while their neighbours of Vittoriosa were loudly feasting their patron St. Lawrence, but soon again re-arrested on the next 26th November and shot on 20th February 1799. It is thought that his arrest was the chief reason which plunged his bosom friend, the said Reverend Michael, heading into the sacred struggle for liberation, as has formerly done the saintly French national heroine Joan of Arc, alias the Maid of Orleans, against the English dominators of the northern part of her country on 8th May 1429. Others say that he was shot on 19th February 1799 because the French found a sword in the house (cf. Petition of Commission of Public Property made on 20th February 1799 by his brother Michaelangelo and his sister Mary-Antonia to have share of the pharmacy which belonged to their father Lawrence, along with the other brothers Joseph and Benedict and other sister Anne.
49. Mr. Gajetan Mallia already mentioned at "j" in group at No.45). He was from Valletta where he remained,

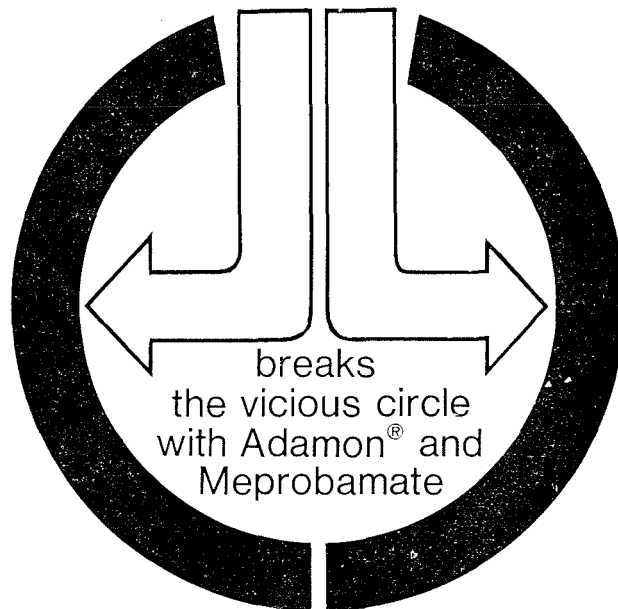
- when he left the Pharmaceutical Service at the "Sacra Infermeria" after 39 years there in 1979, during the French occupation. It is recorded that he was chosen by the Court, along with others, as one of the tutors of the 4 sons of Giovanna, the very rich widow of Lorenzo Fontani and who was found mysteriously dead on 15th December 1799, only six months after her second marriage to the French Captain Antoine Gastinel (cf. Dr Clo Testa's "Maż-żewg Nahat tas-Swar", III, pp.652-660).
50. Pharmacist Louis Gatt of Valletta, who in July 1799 was banished, along with 150 others, to Comino when the French forced people to leave Valletta because of the scarcity of food and the country people did not want them because of their francophile tendencies (cf. Dr Testa's *ibidem*, page 550).
  51. Pharmacist Augustine Levanzin (1872-1955) who was also a Legal Procurator. He led a very exciting life here and abroad. He edited a semi-political paper "In-Nahla" in 1908, wherein in 1910 he published his very lengthy novel "Is-Sahhar Falzun", etc. He even fasted for 31 days in America in 1912 by taking absolutely no food, while advocating that fasting can cure any internal disease "as cats do" he used to say. In 1927 he returned to Malta but on account of political troubles which he created involving himself in several court libels, he again went abroad in 1928 and died aged 83 in Montecarlo in 1955. He was an Esperantist.
  52. Pharmacist Marianus Agius was in charge of the pharmacy at "Santo Spirito" Hospital in Rabat when the French took over our Islands on 10th June 1798.
  53. Pharmacist Horace Aquilina was in charge of the men's section dedicated to St. John of the "St. John the Baptist and St. Anthony of Padua Hospital" at Rabat, Gozo during the short-lived French occupation there and where he remained for some more years on the subsequent British rule.
  54. In the year 1849 Government established 17 Government Dispensaries besides that at Valletta, at Police Stations to cater for the then 23 districts. Dr. Saviour Bezzina M.D., Ph.C. from Zejtun was appointed to Luqa and was also responsible for the inhabitants of Safi and Kirkop. They were called "Spizjar u Tabib tal-Pulizija" and were intended for the use of the poor people free of any charge. On 18th September 1885 said officials were called District Medical Officers.
  55. Pharmacist Calcedon Baldacchino who qualified in 1854 and exercised his profession at Luqa.
  56. Pharmacist Joseph Mamo (1793-1865), born of Maltese parents at Agosta near Syracuse in Sicily but who grew here in Malta at Birkirkara. He studied at the Government school in Valletta and at the University. He served as Assistant-Chemist during the plague epidemic of 1813 at Lazzaretto and later at the Civil Hospital having formerly obtained his diploma in 1819. He was even chosen Professor of Chemistry at the University when the eccentric Dr. Cleardo Naudi, M.D. of Ghaxaq, who had even become a methodist of Wesley, died and was stoned by the people on his being carried to be buried and who had been Professor of Chemistry from June 1805 to 1834. Pharmacist Mamo was a member of the "Accademia Gioenia di Scienza Naturali" of Catania, member of the "Cabinetto di Storia

- Naturale" of Syracuse and member of the local "Societa' Medica d'Incoraggiamento".
57. Pharmacist Anthony Emmanuel Caruana (1838-1907) from Zejtun. He had studied at the Augustinian Fathers' school in Valletta, later joined the University and after becoming a pharmacist he worked with his brother-in-law Dr. Andre' Pullicino, M.D. Later he set-up private business, travelled widely and was a good writer, indeed he is the author of the fine historical novel "Inez Farrug" in 1889, of a "Vocabolario della Lingua Maltese" in 1903 and of an unfinished work "Fenici e Maltesi".
  58. Pharmacist John-Baptist Busuttill from Floriana, who ran his pharmacy at Msida with his brother Dr. Gustave who had graduated M.D. in August 1880 and who lived at No. 1, Molo Ta' Xbiex, Msida, because he was the District Medical Officer of Msida and Pietà. They were both Esperantists. Later in life John-Baptist opened a pharmacy at Nos. 40-41, Broad Street, Hamrun.
  59. Pharmacist Joseph Speranza-Parnis of Valletta who obtained his diploma in 1855. He subsequently worked at a pharmacy which he had just set-up in Republic Street Valletta, where the famous Dr. Nicholas Zammit M.D., from Siggiewi, Professor of Philosophy (1876-1890) and of Architecture (1878-1890) who remained famous for his designs of the facades of the Parish Churches of Siggiewi, St. Paul's at Valletta and of Floriana, and who died on 29th July 1899, used to stay more to meet his friends than to practice his medical profession.
  60. Pharmacist Alfred Cumbo, who owned a fine pharmacy called "New Dispensary" in Republic Street, Valletta opposite the Union Club or the present National Archaeological Museum.
  61. Pharmacist Fabrice Borg, who in 1884 took over the direction of his famous pharmacy in Republic Street, Valletta, which remained one of the chief medical rendezvous in the city up to World War II when it was unfortunately destroyed by German bombs.
  62. Pharmacist Alphonse Charbon from Birkirkara who was first in order of merit in the final examination in 1900. He was the nephew of the Canon Precentor Joseph Charbon of the Birkirkara Collegiate Parish Church.
  63. Pharmacist Saviour Speranza of Valletta, son of Pharmacist Joseph just mentioned. He was one of the most busy chemists of Valletta during the World War 1914-1918.
  64. Pharmacist John Mallia from Birkirkara, brother of Parish Priest of Mosta Anthony (1859-1876) and son of Francis, and who exercised his profession at the pharmacy in the Main Square of Birkirkara. He was married and when he died he left all his immovable property of houses and fields to the Collegiate Parish Church as per his last will in the Acts of Notary Peter-Paul Psaila of 1th June 1855, where we find that he also left 800 "scudi" for low Masses in repose of his soul, 1 "tari" to the Governor of Malta, 1 "tari" to the Archbishop-Bishop of Malta, and 1 "tari" to the Provost-Archpriest of Birkirkara Canon Calcedon Agius, S.Th.D. (1853-1866).
  65. Pharmacist Ignatius Sammut from Rabat, Gozo, who remained famous for his invention in 1924 of a specially medicated dusting powder for after-shave use, which he named

ANER and which was excellent as an antiseptic against shaving irritation and for juvenile erythematous rash and similar face troubles. It was reported that he was offered a patent for it by a German Pharmaceutical Firm but that he did not agree to sell its formula which alas disappeared with his death.

63. Pharmacist Lewis Bondi' from Rabat, Gozo, father of our fellow pharmacist Joseph and of Monsignor Edward Bondi' Dalli. Mr. Bondi' was a great philanthropic, good benefactor to the "Ta Pinu" magnificent church and indefatigable member of the Confraternity of Our Lady of Sorrows at St. James church of Rabat, Gozo. He was born in 1854 and died in 1928. May I here add that the Bondi' family went to Gozo from Luqa, where Mr. Michael in 1671 had nine fields one of which was in his absolute ownership while the other eight ones belonged to others but were rented to him. Mr. Peter was selected one of the two constables or village representatives in 1647, Mrs. Catherine in 1674 left a sum of money to the Parish Church there so that from its interest the church organist be paid, and Mr. Saviour again selected village representative "by popular Acclaim" in 1730, and who, on becoming sick in 1792, after consulting several medical practitioners to no avail called a Turkish slave who gave him for the price of 20 "scudi" a bad smelling liquid with which to spray his house to drive off the "magħmul" — evil spirit. Pharmacist Lewis was also inter-related with the descendants of the Gozitan Pharmacist Dalli (no. 1), indeed Dalli's fine house (Casa or Palazzo' in the Citadel was sold to Government by Mr. Bondi' in 1937.
67. Pharmacist Archangelo Agius (1880-1964), still another Esperantist, who worked at the pharmacies: "Popular" in High Street, Hamrun, up to 1918, "Msida" at No. 186, Palm Square, Msida, and at "Vilhena" in Floriana. He was the father of the famous bacteriologist Dr. Emmanuel.
68. Pharmacist Henry Micallef, Ph.D., L.P., B.Sc., from Hamrun where he was born in 1918, obtained his diploma in 1945 and was the first local member to obtain the Doctorate of Philosophy in Biology, hence he was appointed Professor of this science in 1959, as well as Curator of Natural History at the Museum Department from 1966 up to his immature death in 1970.
69. Pharmacist Francis Caruana Dingli from Mellieha but who was soon taken to live at Zebbug, where he later practised his profession. He was unmarried and died on 3rd October 1915. He remained famous as the inventor of a special alcoholic aperitif drink called "Ferro Quasio" as well as of a white thick-sugared alcoholic liqueur called "Empire", still produced by his friends Messrs. Salvu Sadson of Qormi.
70. Pharmacist John Gatt, M.P.S. from Zebbug who carried out his pharmaceutical studies in England. He was known to his family and friends as "Ganni l-Iswed" because of his dark skin. After practising for some time at Zebbug, he passed most of his life at a pharmacy in Qormi where he had married, until his death in 1948.
71. Pharmacist Alfred Lupi of Sliema. He was the father of Monsignor Cannon Joseph, D.D., B.L.Can., Ph.L., Dom.Prel. He was the Chief Pharmacist and Medical Storekeeper at the Central Civil Hospital, Floriana,

# Tranquo-Adamon<sup>®</sup>



---

## Properties

Reliable break of the vicious circle spasm - pain - spasm by rapid onset of the peripheral spasmolytic effect of Adamon,<sup>®</sup> and the calming effect of Meprobamate on the limbic system. Anxiety and emotional tension are eliminated, without impairing physical capacity and mental alertness.

---

## Indications

All functional or organic disorders associated with anxiety and emotional tension, such as: nervous gastric symptoms, gastritis, gastric and duodenal ulcer, dysmenorrhoea.

---

## Presentation

Ctd. tablets, containing 10 mg. Adamon<sup>®</sup> and 200 mg. Meprobamate.



ASTA-WERKE AG  
Chemische Fabrik  
Brackwede / Germany

---

Agents: VIVIAN COMMERCIAL CORPORATION LTD.  
9. St. Mark Street. Valletta

- between the two World Wars, and died on 19th January, 1940.
72. Pharmacist Edward Refalo, son of President of the Superior Courts the Chief Justice Sir Michaelangelo, Kt, C.B.E., B.A., LL.D. from Gozo (1876-1923) and father of the Hon. Dr. Michael Refalo, LL.D., M.P. of Sliema. He was employed as Analyst at the Customs Department Laboratory and died in 1941.
  73. Pharmacist Paul Farrugia, from Senglea, father of Monsignor Canon Saviour, S.Th.D., J.C.D., Ph.D. of Mdina and of our fellow-pharmacist Cajetan. He had his pharmacy opposite the "Union Club", now the National Museum, Valetta, and was the chief optical glasses supplier of his time. Died on 18th October 1944.
  74. Pharmacist Amante Marguerat from Hamrun, who was employed at the Central Civil Hospital, Floriana, and then as Analyst at the Customs Department Laboratory. He was also a very good stamp collector. Died in 1944.
  75. Pharmacist Joseph Eugenio (known as Gege') Serge. He was employed at the Central Civil Hospital Pharmacy, then an Analyst at the Laboratory of the Customs Department and later during the World War II years at the pharmacy of the then improvised St. Aloysius College Hospital. He died aged 57 years in 1947.
  76. Pharmacist Godfrey Serge, senior brother of pharmacist Gege'. He was the Managing Apothecary of the Economical British Dispensary of Rudolph Street, Sliema. He died aged 61 years in 1948.
  77. Pharmacist Godfrey Laferla, M.P.S., from Valetta. He had his British Central Pharmacy near the Law Courts in Republic Street, Valetta. He was one of the examiners in the Course of Pharmacy in Pharmacognosy and in Pharmacy with Pharmaceutics from 1936 to his death on 27th May 1949.
  78. Pharmacist Francis-Xavier Muscat of Hamrun, who was the Chief Pharmacist and Medical Storekeeper at the Central Civil Hospital during the World War II and was pensioned in 1949. He tried to enter politics on the side of the then Constitutional Party but was not elected. Died in 1952.
  79. Pharmacist Carmelo Vassallo from Zebbug, brother of Chevalier Joseph O.B.E., K.M. and of our fellow-pharmacist Caesar. He was employed at a private pharmacy in Floriana and then at the Central Civil Hospital Pharmacy in 1937 and subsequently at the Customs Department Laboratory in August 1970.
  80. Pharmacist John Mifsud of Sliema. He managed his popular "Anglo-Maltese Dispensary" at the bottom end of Prince of Wales (Manwel Dimech) Road, near the Strand, Sliema. Died aged 78 years on 5th September 1977.
  81. Pharmacist Dominic Caruana from Valetta, son of Vincent and Annunziata nee' Callus, lived at the beginning of our century, and was brother of Mro Joseph (1880-1931) and of Raphael, L.P.
  82. Pharmacist Carmelo Debono Vella from Mellieha, who remained remembered for having in 1932 composed the hymn of "La Vittoria" Band Club for the occasion of its silver jubilee and which was musically arranged by this Band's Mro Willie Attard (1932-1948 and 1952-1957). (cf. Banda "La Vittoria" — Mellieha, 75 Sena, Mejju 1982).

(continued on page 23)

# THE UNIT DOSE DRUG DISTRIBUTION SYSTEM

SIMONE SCIRIHA B.Pharm.

This study would not have been possible without the financial assistance received through the award of a Marquis Scicluna Junior Fellowship. I would like to thank the Board of Trustees, Mr A. Scicluna-Spiteri, Acting Head of the Department of Pharmacy and Mr G. Griffiths for their constant help and interest.

In September 1981, I visited the Central Hospital for psychiatric cases in Hatton near Warwick (U.K.). The hospital has for some years operated a unit dose drug distribution system based on a supply of strip packed tablets provided by the West Midlands Regional Health Authority strip-packing unit which is situated at the hospital, and on a supply of liquid medications in individual dose pots. The Regional packaging unit provides strip packed tablets not only for its own hospital needs but also for some forty other hospitals.

During my stay in the hospital the principal pharmacist, Mr G. Griffiths showed me around the hospital pharmacy, wards and the strip-packing unit. I will try my best to describe the basic elements of the system and how it works.

## PATIENT PROFILES

The first requisite is a folder into which the "patient profiles" for each ward are kept. This profile is a copy of the prescriptions for each patient — simplified by using for instance "x4" instead of "q.d.s." and with one's own notes such as "rarely needs this" and with space for such details as the date the drug was first prescribed. The patient profile is essential so that the prescriptions need never leave the ward.

The pharmacist in charge takes hold of the folder of a particular ward, for example, Miller Ward. This acute psychiatric ward is located about 200 metres from

the pharmacy in external building. Since it is difficult to move trolleys from the ward to the Pharmacy, the pharmacist takes the required drugs and profiles to the ward in a small carrying box (or case) made to the requirements of the hospital by the Enfield Box Company having six or eight compartments. The pharmacist then proceeds to the store where the strip packaged tablets and unit dose pots are kept. He starts filling the box with medicines in patient order. After having completed the box, he takes it personally from the pharmacy to the ward in question. The box contains the weekly requirements for each patient in the ward. He now carries out the servicing of the trolley in the clinic room itself.

Wren and Victoria wards were long-stay psychiatric wards situated in the main building of the hospital and close to the pharmacy. The drug trolleys and the Kardex record are collected by the portering staff, and taken to the pharmacy for servicing.

Once a week the pharmacist tops each patient's drawer on the trolley with enough unit packed medication using the patient's Kardex records to determine the drug requirements. The pharmacist initials the Kardex and updates the patient's profile. Where it is not possible to supply a tablet or capsule in strip packed form or a medicine in unit dose container, the seven days' supply of the drug is dispensed into a bottle. The bottle is labelled with the patient's name and is placed in the patient's drawer.



## IN THE WARD

The medicine trolley is wheeled from the ward clinic room to a convenient point in the ward from which the drugs may be given out; in Wren and Victoria wards, distribution is from the clinic room. Two nurses, at least, one of whom can identify the patients, administer the medication. Ambulant patients are asked to come to the trolley. The trolley is placed in a position that will prevent patients having access to the drugs. In turn each patient's medication chart (Kardex) is checked. The patient's drawer is pulled from the trolley and the correct drug and dosage are withdrawn from the drawer. The drawer is replaced in the trolley and the medication chart initialled.

In a recent article in the Pharmacy Times, the Director of Pharmacy Services of the Union Memorial Hospital, Baltimore, Maryland indicated clearly that the unit dose system in his hospital provided the pharmacy with much more drug control than it previously had (Pellissier, N. 1978). The unit dose system also helped to reduce medication errors as well as nursing time spent on drug administration.

I think the study I carried out based on a visit to a hospital utilising the unit dose and a literature review on unit dose medication distribution has convinced me to do my utmost in the years to come to see that the system is implemented in our state hospitals. I am of the opinion that the system should first be implemented in a psychiatric hospital like Mount Carmel Hospital. The reason lies in the fact that long-stay hospitals have few changes in medication and this would be financially more feasible.

(continued from page 21)

83. Pharmacist Joseph Saydon, from Zurrieq, procurator of "Our Lady of the Rosary" Confraternity, and who was killed along with 10 other persons, when the sacristy of his Parish Church was destroyed by enemy bomb on Thursday 23rd July 1942.
84. Pharmacist Carmelo Callus of Valletta, who died on 23rd July 1958. His son Anthony M. was an M.R.S.H., a Senior Health Inspector, was a fine trade-unionist and did work in Australia; and died on 28.8.1981.
85. Pharmacist Chevalier Oscar Vella, from Hamrun, who had his pharmacies at Hamrun and at Valley Road — Birkirkara, as well as a pharmaceutical store and laboratory at Hamrun. He was also Demonstrator of Pharmaceutics at the University and a very assiduous member and even President of the Marian Sodality. He was made Knight of the Papal Order of St Sylvestre on 2.9.1972. He had a very respectable family of 5 sons and three daughters amongst whom the first born was the Reverend Savior, teacher of science at the Archbishopial Seminary. He died on 7.10.1980.

I end this study about our dead fellow PHARMACISTS, whom we all believe and pray that they all passed to a much better life with their Patron Saint in Heaven the Reverend Pharmacist John Lombardi of Rome who died in 1609, by recording that a Government dispensary for the use of poor sick people was first instituted at Valletta in 1833 after a strong recommendation for that purpose by Dr. John Davy, then serving as Army Surgeon here and later promoted Inspector General of the English Military Hospitals. That much needed social service was greatly appreciated and the poor users of Malta and Gozo ran to it by their thousands.

## COMMUNITY PHARMACIST

# FROM A COMMUNITY PHARMACIST

## ORAL CONTRACEPTIVES

The most widely used type of oral contraceptives is the combined estrogen-progestogen product. Table 1 gives an indication of the range of combination products available today. The combination contraceptive products have a high efficacy resulting from 3 effects:-

1. the suppression of ovulation by estrogen and progestogen;
2. the effect of the progestogen on the endometrium in such a way that it cannot readily support the nidation and growth of a fertilised ovum;
3. the thickening effect of the progestogen on the cervical mucus which prevents the sperm from passing through.

Progestogen	Dose	Oestrogen	Dose	Trade name
levonorgestrel	0.25mg	ethinylestradiol	0.03mg	Nordiol
levonorgestrel	0.15mg	ethinylestradiol	0.03mg	Nordette
				Microgynon
norgestrel	0.5mg	ethinylestradiol	0.05mg	Ovral
norethisterone	0.5mg	ethinylestradiol	0.03mg	Ovysmen
norethisterone	0.1mg	mestranol	0.05mg	Orthonovin
ethynodiol	1.0mg	mestranol	0.05mg	Ovulen 50

**TABLE 1. Some combined estrogen-progestogen contraceptive products available locally**

It has generally been regarded as essential that hormonal steroid contraceptives be available only on prescription, and that all women using them should be subjected to repeated intensive observation during their use. Suggestions have been made that medical intervention should only occur if the woman has a complaint. Paramedical personnel such as nurses, health visitors, midwives and pharmacists, have, in many countries been trained to provide oral contraception, but their use is still controversial, particularly in the developed western countries<sup>(1)</sup>.

When commencing oral contraceptive therapy, it is advisable to start with a low dose estrogen formulation and to change to one with a higher estrogen formulation content should breakthrough bleeding occur.

### SIDE EFFECTS

Beneficial side effects are: 1. a reduction in menstrual flow;  
2. regularity of menstruation;  
3. an almost invariable absence of dysmenorrhea.

Minor side effects which do not constitute more than a minor nuisance to most patients are, fluid retention, nausea, exacerbation of varicosities, menorrhagia, and

breakthrough bleeding caused by the estrogen component. The progestogen component may cause acne, greasy hair, weight gain and breast fullness. The incidence of these symptoms may be reduced by switching to a different preparation with a lower ratio of the hormone thought to be responsible for the symptoms.

It should be noted that pregnancy is more likely to occur if there is breakthrough bleeding, so that if this persists, dosage should be promptly adjusted. The patient should be prescribed with a greater progestogen-estrogen ratio in the next cycle. Certain side-effects (eg. nausea, menstrual cramps, breast discomfort) are less common in overweight women and more so in the underweight; bodyweight should therefore be taken into consideration when prescribing on oral contraceptive.<sup>(2)</sup>

Serious side effects: Accumulated data shows that women who are on oral contraceptives are four times more likely than nonusers to suffer from myocardial infarction and three times more likely to have a fatal heart attack. The risk of venous thrombosis among users of low dose formulations is four times that of non-users; which risk increases to tenfold among users of high dose formulations.

Most studies have shown that all these risks skyrocket when oral contraceptives are used in conjunction with smoking, hypertension, high cholesterol, diabetes and/or advancing age.<sup>(3)</sup>

## CONTRACEPTIVE FAILURE

Failure of contraception of combined preparations can occur due to:

1. failure to take the tablets daily;
2. another illness which interferes with the absorption of the hormones;
3. drug interactions.

1. As with any contraceptive method, the success of compliance is highly dependant on the motivation to prevent contraception. Should a tablet be missed, it can be taken within the next 12 hours. If, however, more than 12 hours have elapsed, the therapeutic effect in that cycle may be reduced. The other tablets should be taken at the usual time, but an additional contraceptive method should be used.

2. Vomiting and diarrhoea may interfere with absorption of the pill and reduce its contraceptive effect. In the event of such an upset, the pills for that cycle should be taken as usual but the use of an additional contraceptive method should be advised.

3. Oral contraceptives have a potential to inhibit the metabolism of other drugs. More importantly, several drugs significantly accelerate the biotransformation of oral contraceptives, by induction of liver enzymes, hence predisposing to loss of effectiveness and unplanned pregnancy. In clinical practice, such accelerated biotransformation may be suspected if breakthrough bleeding occurs, and the oral contraceptive dose increased or another contraceptive method used.

Estrogens undergo enterohepatic circulation. The estrogen conjugate excreted in the bile, enters the gastrointestinal tract where it is acted upon by bacteria in the gut releasing the active steroid for reabsorption. If the bacterial flora of the gut is suppressed by the use of an antibiotic, the steroid conjugates fail to undergo reabsorption resulting in a much more rapid clearance of the steroid from the body and inadequate suppression of the normal menstrual cycle.<sup>(1) (4)</sup>

**TABLE 2. Drug interactions with contraceptives** <sup>(2) (4) (5)</sup>

<b>Class of drugs</b>	<b>Effect of Interaction</b>
Antiinfective agents: Ampicillin, Rifampicin, Chloramphenicol, Tetracycline, Sulphonamides	Possible decrease in contraceptive reliability. Isolated cases of pregnancy reported
Hypoglycaemics: Insulin, oral hypoglycaemics	Control of diabetes may be altered
Barbiturates	Possible decrease in contraceptive reliability.
Antidepressants: Tricyclic antidepressants	Possibility of breakthrough bleeding and reduced contraceptive effect.
Anti inflammatory agents: Phenylbutazone, oxyphenbutazone	Possible decrease in contraceptive reliability.

### **EFFECT ON LACTATION**

Women who are lactating sometimes find that the amount of milk is reduced by the use of some estrogen containing contraceptives. Low dose estrogen combination products and progestogen only preparations do not significantly effect the milk production. The amount of steroid injected by the breast fed infant is small and is readily metabolised.

- (1) Avery G.S. — Drug Treatment — Principles and Practice of Clinical Pharmacology and Therapeutics.
- (2) The Schering Oral Contraceptive Guide for Pharmacists and Nurses.
- (3) Polmer F. — American Pharmacy Vol. NS21 No. 6 June 1981.
- (4) Stockley I.H. — Pharmaceutical Journal November 6, 1982.
- (5) Stockley I.H. — Drug Interaction Alert 4 (Boehringer Ingelheim).

### **RESEARCH**

#### **POTENTIAL MALE CONTRACEPTIVES**

##### **Gossypol**

Investigations are currently being carried out into the use of gossypol as a male contraceptive.

Gossypol is a yellowish phenolic compound found in the seeds, leaves and roots of the cotton plant. Its contraceptive effects were not recognised until the 1950's, when a group of Chinese villagers became ill after cooking with cold-pressed cottonseed oil instead of the usual oil prepared through boiling. The cold pressed oil contained active gossypol which when taken in large amounts produces the symptoms of "cottonseed poisoning".

(continued on page 28)

## NEVERTHELESS - PROSIT!

Dear madam,

Your editorial published in the July issue of *The Pharmacist*, was particularly intriguing. You touched on a number of important issues, very relevant to the situation of Maltese pharmacy today, without going into details. Indeed, you tickled our curiosity, but left us gasping for more.

In your editorial, you talked about the two degree courses being offered by the Department of Pharmacy, namely B.Pharm. and B.Pharm. Tech. and explained what job opportunities are available for both graduates. But you did not, however, elaborate on the difference between these two courses, thus leaving us completely in the dark. I am sure that the majority of your readers would be greatly interested in the course curriculum of these two courses. What subjects are being taught, for example, and who are the lecturers responsible for imparting this knowledge to the students. This information would enable us to be better judges of the roles that graduates from these two courses will be capable of fulfilling. Because, up till now, the majority of thinking men and women are still of the belief that the B.Pharm. Tech. is filling the gap left by the destruction of the B.Sc. degree course, the destruction of which being still beyond contemporary understanding.

The B.Pharm. student is our future pharmacist, with an increasing number of responsibilities, 'in view of the proposed new developments'. What are these new developments? How is sterile production being set up and what is to be produced? Quality control of what and how? More information will surely help to persuade even the most cynical and world weary of pharmacists that these developments

mean that the wheel of progress is, however belatedly, slowly but surely moving in the field of Maltese Pharmacy.

The idea of the introduction of a doctorate in pharmacy was to me rather presumptuous. Please, let us learn to walk upright and with pride, selfconfident in what we know and stand for, before trying to learn how to run! The pharmacy department has been completely overhauled with new courses offered and the people concerned with its running are still, literally, having to learn as they go along. So, how can you suggest that the time is ripe for a higher degree course to be introduced. You say that the pharmacist needs training over and above that acquired with a B.Pharm. first degree, if he is to be equal to other medical specialists, meaning, presumably, doctors. Is not, however, the B.Pharm course specifically concerned with the production of graduates who have specialised in the study of the sciences directly related to pharmacy? The introduction of an extra year, making a B.Pharm degree a four-year course, should surely be of immense help in allowing the introduction of courses in clinical pharmacy, and all that this entails. It would help of course, if first year B.Pharm students were immediately introduced to the various fields of pharmacy instead of wasting a year doing Physics, Chemistry and Biology. Surely a student with good 'A' Level passes in these subjects has a good fundamental knowledge to build on. In this way, such a B.Pharm. graduate would most certainly, be on an equal footing with a graduate of medicine. If not, then we really have not learnt how to walk.

It is true that specialized knowledge is required of a pharmacist who is to play a major role in hospital pharmacy or in

## LETTERS TO THE EDITOR (continued)

the pharmaceutical industry just as a doctor needs to undergo special training to become a 'specialist' in a specific field. A number of questions need to be asked, here, and answered honestly by those concerned. Does the Dept. of Pharmacy have qualified personnel to supervise these would be postgraduate students? Can it offer adequate research facilities which include laboratory equipment (if relevant) and an adequate number of scientific journals? Would the student be in a position to learn the new ways and ideas in the field of pharmacy or would he be isolated from the outside world? Would he be able to attend conferences and meet his superiors and equals in the field of pharmacy so that he can discuss and exchange knowhow? Because that is what a postgraduate course is all about, and certainly not 'only the preparation of a thesis'. Would it not be better if the pharmacy department concentrated its

resources on producing pharmacists worthy of the name? Pharmacy graduates interested in further specialization could be offered scholarships of 2 to 3 year duration, which would enable them to study in foreign universities, thus increasing our contact with the foreign world and helping to decrease our isolation in every way. My final word is a 'Prosit' to the editorial board, both for the regular publication of this journal and for its continual improvements.

Your faithfully,  
Josephine Farrugia B.Pharm.

### EDITORIAL NOTE:

Will the pharmacist signing Employed Chemist kindly contact the editorial board as soon as possible.

---

(continued from page 26)

There is little doubt about the effectiveness of gossypol as a contraceptive, but, because of the seriousness of poisoning, a lot of studies are needed before it can be available for contraceptive uses. The results are so far encouraging in that it seems to cause no histological changes in body organs, no changes in libido, and sex hormone levels, and little changes in the testes.

### Synthetic analogue — LHRH<sup>A</sup>

Another candidate for male contraception is a synthetic analogue of leutenising hormone (LHRH). It has been reported that, LHRH<sup>A</sup> significantly reduced the sperm counts of 8 men who participated in the study. However, 5 of the men developed temporary impotence during the administration of LHRH<sup>A</sup>.

Futher tests are being conducted in an attempt to determine whether a fine-tuning of dosage levels will permit testosterone production to continue, yet block the production of sperm. Also, some tests are currently being carried out in which volunteers are given testosterone as well as LHRH<sup>A</sup> in an attempt to determine if an outside supply of the steroid can counteract the LHRH<sup>A</sup> induced decrease in steroid production, thus leaving the subject potent yet sterile.

(continued from page 14)

have the gene or genes specific for the allergic state and their environment may be similar, yet, only one of them may show chemical evidence of allergy.

### Breastfeeding

An important factor which seems to effect the degree of penetrance is the mode of infant feeding, breast or bottle feeding. Under normal circumstances, in mature individuals, very little ingested protein gets through the intestinal wall into the bloodstream, where it can encounter cells and elicit an immune response. Most food protein is broken down into peptides and individual amino acids in the stomach and small intestine; it is these breakdown products that enter the bloodstream, and they are not antigenic. What little protein ordinarily gets through is apparently tolerated by the immune system. If too much protein passes through the epithelial lining of the intestine, however, the immune system can be sensitised and an allergic response can ensue. In the case of the newborn baby, the intestinal wall is probably hyperpermeable to food proteins, as it is known to be in the many newborn animals. Because of this, neonatal exposure to foreign (cow's milk) proteins may be allergenic, whereas exposure to the mother's milk proteins may not be. It is likely too that there are factors in mother's milk that help to seal the intestinal epithelium, making it impermeable to foreign proteins. For lack of those sealing factors, a bottle fed infant may be exposed even later in life to proteins it would not otherwise encounter. Such effects may be all the more important in an individual genetically predisposed to allergy. Whatever the connections bet-

(continued at foot of next column)

sease. In many leading medical countries such as England, low dose heparin prophylactic technique is done regularly. This should encourage us to expand this treatment in our hospitals.

### References

- Ebert R.V.: Use of Anticoagulants in acute myocardial infarction. *Circulation* 1972, 45, 903-910.
- Kakkar V.V.: Deep vein thrombosis; detection and prevention. *Circulation* 1975, 51, 8-19.
- Sagar S.: Heparin prophylaxis against fatal postoperative pulmonary embolism *Br. Med. J.* 1974, 2, 153-155.
- Ehrlich and Stivala: Chemistry and Pharmacology of heparin. *J. pharm. Sic.* 1973, 62, 517-544.
- Wessler: Anticagulant therapy — 1974 *J. Am. Med. Ass.* 1974, 228, 757-761.

---

ween bottle feeding and allergy may be, many paediatricians have come to believe that a newborn infant, and in particular one with parents or siblings who are clinically allergic, should receive absolutely no milk other than mother's milk for the first 3 to 6 months of life; it is likely that the most vulnerable period is the first three to seven days.

References: *Scientific American*, Aug. 1982, Vol. 247, No. 2.

*Clinical Pharmacology* by D.R. Lawrence.



**Acupan** – Non narcotic analgesic

---

**Dorbanex** – the gentle way to treat constipation

---

**Duromine** – for the control of simple obesity

---

**Hiprex** – an effective treatment for urinary tract infection

---

**Medihaler Range** – bronchodilators in aerosol form

---

**Pholtex** – a sustained release cough suppressant

---

**Pulmadil** – a fast acting aerosol bronchodilator

---

**Nuelin S.A.** – a long acting theophylline preparation for the routine control of bronchospasm

---

**Rauwiloid** – for the long-term management of hypertension

---

**Rikospray Group** – a range of topical antiseptic aerosol products

---

**Supplamins** – one-a-day multivitamin and mineral

---

Full details of these and other products are available from...

**JOSEPH CASSAR LIMITED**  
**54 Britannia Street**  
**Valletta, Malta**

or direct from...

All product names; Riker; 3M: trade marks

**Riker Laboratories**  
Loughborough England



---

# TOPILAR

The nearest  
approach to the  
ideal topical steroid.



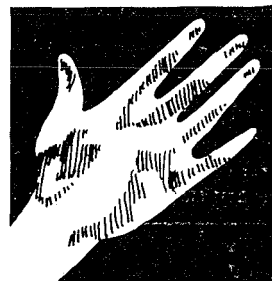
Sole Agents: V.J. Salomone Ltd.  
10, South Street, Valletta. Tel: 28026

---



# NAPROSYN

**increasingly recognised  
as number one  
for new arthritics.**



Sole Agents: V.J. Salomone Ltd.  
10, South Street, Valletta. Tel: 28026





# An excellent antibiotic for paediatric infections

## ► Broad spectrum of activity

Amoxil has a broad spectrum of bactericidal activity — particularly important in paediatric infections where a rapid kill of bacteria is essential.

## ► Outstanding oral absorption

Amoxil's outstanding oral absorption means fast, decisive action even at difficult sites of infection. Amoxil also achieves excellent sputum levels.

## ► Extensive clinical success

Extensive worldwide clinical trials have clearly demonstrated Amoxil's efficacy in paediatric infections. Success rates achieved include 93.5% in upper respiratory tract infections and 93.7% in mixed paediatric infections.

## ► Proven safety

In large-scale trials including paediatric infections,

no serious side effects have been reported. This clearly demonstrates Amoxil's safety.

## ► Highly acceptable and convenient

Both Amoxil syrup and paediatric suspension have a pleasant citrus flavour that is readily accepted by children.

► Amoxil's convenient t.d.s. dosage ensures continuous 24 hour antibiotic coverage without disturbing sleep and with a reduced risk of missed doses.

Convenience and reliability — two more good reasons why Amoxil is the logical choice in paediatric infections.

 **Bencard**

Amoxil (trademark) is a product of research from Bencard, Brentford, England.

new  
**AMOXIL**

an excellent antibiotic for routine practice

Distributors: Alfred Gera & Sons Ltd., 11/13 Vincenti Buildings, Strait Street, Valetta. Further information is available on request.

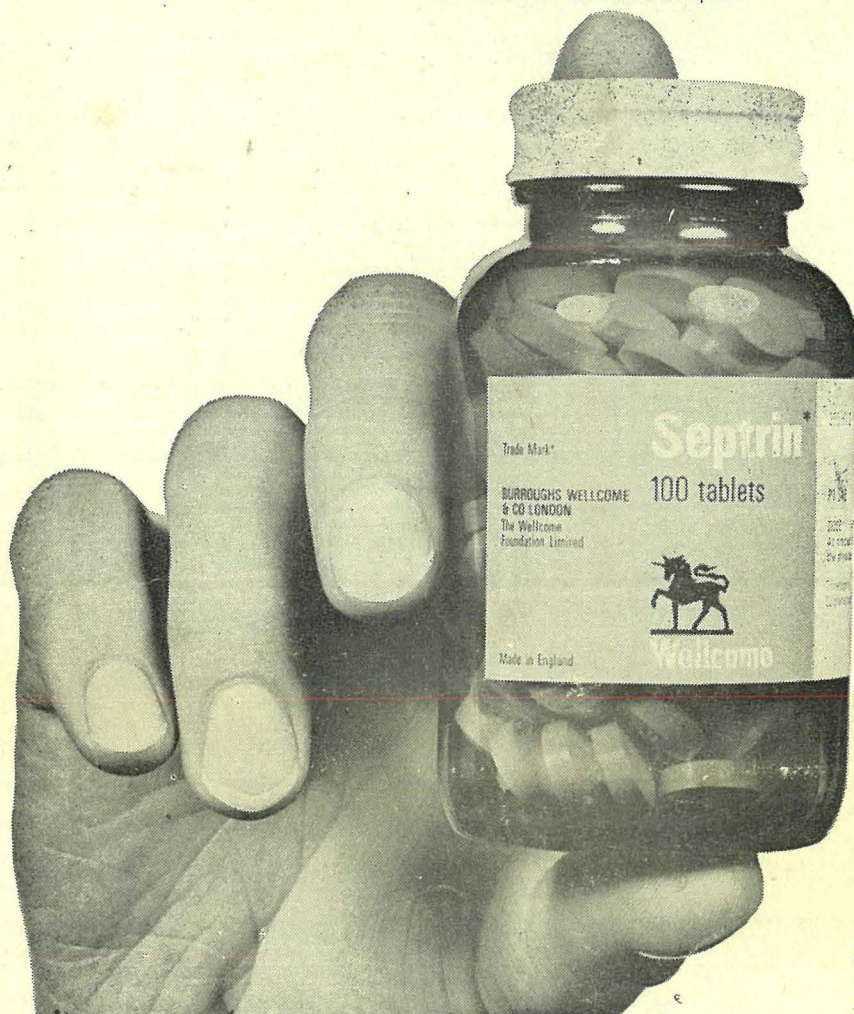
# enter Septrin\*

designed to work first time in bacterial infections  
**exit**  
**the problem pathogens**

- \* an entirely new type of antibacterial agent
- \* acts on the new principle of 'sequential blockade'
- \* exerts an overwhelming effect against most pathogens — particularly the 'problem causing' Gram-negative species
- \* secures activity in tissue to an unusual degree

produces exceptional results in infections of the respiratory and urinary tracts and in septicaemias

full details are available on request



**Wellcome**

Burroughs Wellcome & Co., London  
(The Wellcome Foundation Ltd.)

Trade mark\*