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- Iodine in Pregnancy
- Audit on A-Scan use in MDH
- Erectile Dysfunction
- US vs EU: Differences in Ethical Standards
- Meeting Mary Ann Sant Fournier

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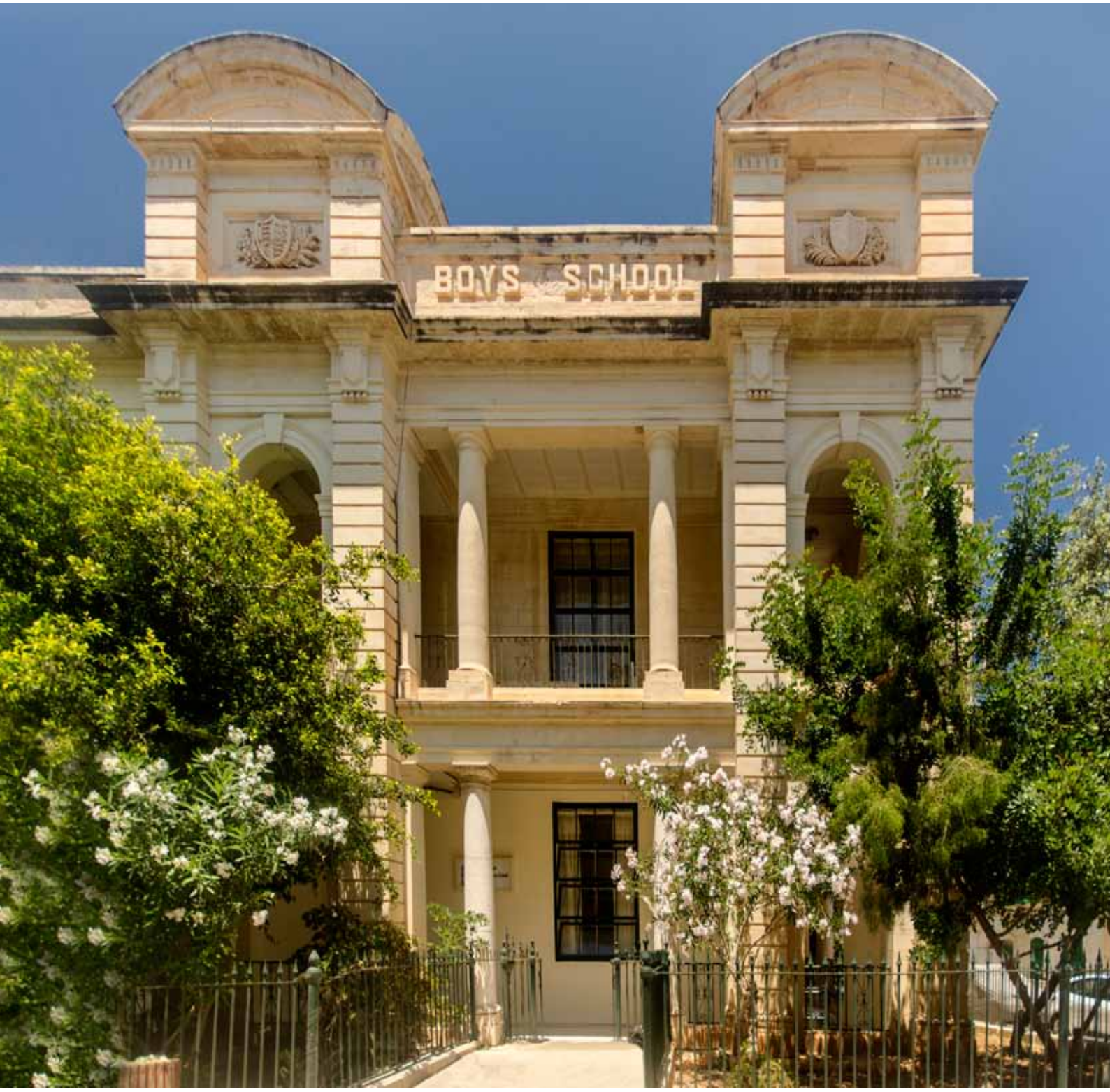

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Management of Erectile Dysfunction

Erectile dysfunction is a common sexual problem in men. The aetiology can range from psychogenic to vascular problems. Clinicians need to investigate the cause of the problem before initiating treatment. Effective treatment is available and the choice of treatment depends very much on the characteristics of the drugs used and especially on the side-effect profile. In this video, Mr Andrew Mercieca gives a practical view on the investigation and management of erectile dysfunction.

This video has been supported by an unrestricted educational grant by the Menarini Group.

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Diabetes - New and Old Drugs

Prof. Stephen Fava speaks about the role of the various anti-diabetic medications with a particular focus on the newer classes of drugs.

Sports and Exercise Medicine

Dr Kirill Micallef-Stafrace discusses the role of Sports and Exercise Medicine in the management of common musculoskeletal problems which traditionally have been the remit of orthopaedic specialists or physiotherapists.

Modern Management of HIV/AIDS

The management of HIV/AIDS has changed dramatically since the discovery of this disease in 1983. In this video, Dr Tonio Piscopo discusses the modern management of HIV. HIV-infected patients are now surviving much longer, to the an extent that HIV infection is now considered as a chronic, infectious disease.

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FREE OUR GENES: A LIBERAL RELIEF

DID YOU KNOW THAT IT IS POSSIBLE TO SEQUENCE YOUR HUMAN GENOME FOR $1,000?

HiSeq X Ten, a new $10 million gene-sequencing machine developed by Illumina, can carry out more than 2 genome sequences an hour, each one sequenced 30 times for accuracy. If one were to compare, mapping the first human genome took over a decade and cost $3 billion. Illumina explained that the cheap price of $1,000 is caused by the projected volume, i.e. 18,000 sequences/year. The price consists of $797 for the reagents used during the process, machine depreciation of $137 and employee overheads of $65.

Although the price at which the sequencing is effectively being marketed depends on high volumes, it seems that the price tag is not factoring in the mark-up, costs of analyzing the completed genome or storage costs. These are extremely very expensive add-ons. Nonetheless, even if the actual price will be higher, we seem to be drawing nearer to start sequencing human genomes in numbers large enough which will allow a direct comparison between them, leading to a translation into personalized medicines. The raison d'etre is that most diseases are the result of many genes, each contributing a small amount to disease development. Actually, by 2017, the UK plans to sequence more than 100,000 patients within its National Health Service. This project was heralded in June 2013 through the formation of *Genomics England,* which spearheads this £100 million project.

The importance of this technology is aptly elucidated by the following scenario. Today, Shelby Valint is a 14 year old Phoenix girl, largely leading a normal life. However, 5 years ago she was bound to a wheelchair, having struggled against an unknown debilitating illness for 9 years. It was only after researchers mapped her entire genome that a defect was identified in the Dopa Decarboxylase gene. This defect prevented the production of sufficient amounts of dopamine. She was eventually successfully prescribed bromocriptine and selegiline, eventually substituting bromocriptine with pramipexole.

Apart from these exceptional cases, one of the possible routine uses of this technology is in pregnancy since sequencing can help identify fetal abnormalities in maternal blood samples. A further application is in tumor mapping. Interestingly, the handheld molecular diagnostics device pioneer QuantuMDx Group has secured a $8.42m funding which will be utilised to optimize and trial Q-POC™, a handheld DNA sequencing & genotyping device. Basically, this $1,000 device can analyse the DNA from a drop of blood/sputum in 15 minutes. This year, field trials will be conducted to genotype the *Plasmodium falciparum, P. vivax, P. ovale, P. malariae and P. knowlesi* with a view to implement drug-resistance strategies. Also this year, Q-POC™ will be used within the UK's National Health Service in order to identify any genetic variations which may affect their response to warfarin.

Ian Ellul

Cover: During WWI, the Government Elementary School in Blanche Huber Street, Sliema became St John's Military Hospital for two years from September 1915 till October 1917. During this period, the pupils were moved to the Carmelite Convent in Balluta Bay.
Photography:
Franklin Camilleri B.Pharm.(Hons.)

Editor-in-Chief: Dr Wilfred Galea
Managing Editor: Dr Ian C Ellul
Sales & circulation Director: Carmen Cachia

Email: mpl@thesynapse.net
Telephone: +356 21453973/4

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▼ This medicinal product is subject to additional monitoring. This will allow quick identification of new safety information. Healthcare professionals are asked to report any suspected adverse reactions. See section 4.8 on SPC how to report adverse reactions.

Kindly consult the full Summary of Product Characteristics (SmPC) before prescribing

Trade Name: Anoro® Ellipta® **Active Ingredients:** 55 micrograms umeclidinium bromide and 22 micrograms vilanterol (as trifenatate). **Pharmaceutical Form:** 55 micrograms/22 micrograms inhalation powder, pre-dispensed. **Indications:** Maintenance bronchodilator treatment to relieve symptoms in adult patients with Chronic Obstructive Pulmonary Disease (COPD). **Dosage and administration:** Inhalation only. One inhalation once daily of Anoro® Ellipta® at the same time of the day. **Contraindications:** Hypersensitivity to the active substances or to any of the excipients (lactose monohydrate and magnesium stearate). **Precautions:** Anoro® Ellipta® should not be used in patients with asthma. Treatment with Anoro® Ellipta® should be discontinued immediately in the event of paradoxical bronchospasm and alternative therapy initiated if necessary. Cardiovascular effects may be seen after the administration of muscarinic receptor antagonists and sympathomimetics therefore Anoro® Ellipta® should be used with caution in patients with severe cardiovascular disease. Anoro® Ellipta® should be used with caution in patients with urinary retention, narrow angle glaucoma, convulsive disorders, thyrotoxicosis, hypokalaemia, hyperglycaemia and severe hepatic impairment. No dosage adjustment is required in the elderly, in renal impairment or mild to moderate hepatic impairment. **Acute symptoms:** Anoro® Ellipta® is not indicated for acute episodes of bronchospasm. Warn patients to seek medical advice if use of short-acting inhaled bronchodilator increases. A re-evaluation of the patient and of the COPD treatment regimen should be undertaken. **Interactions with other medicinal products:** Interaction studies have only been performed in adults. Avoid beta- adrenergic blockers since this may weaken or antagonize the effect of $beta_2$-adrenergic agonists. Caution is advised when co-administering with strong CYP3A4 inhibitors (e.g. ketoconazole, clarithromycin, itraconazole, ritonavir, telithromycin). Anoro® Ellipta® should not be used in conjunction with other long-acting muscarinic antagonists, long-acting $beta_2$-adrenergic agonists or medicinal products containing either of these agents. Caution is advised with concomitant use with methylxanthine derivatives, steroids or non-potassium-sparing diuretics as it may potentiate possible hypokalaemic effect of $beta_2$-adrenergic agonists. **Fertility, pregnancy, and breast-feeding:** No available data. Balance risks against benefits. **Side effects:** Common: Urinary tract infection, sinusitis, nasopharyngitis, pharyngitis, upper respiratory tract infection, headache, cough, oropharyngeal pain, constipation and dry mouth. Uncommon: Atrial fibrillation, supraventricular tachycardia, rhythm idioventricular, tachycardia, supraventricular extrasystoles and rash. **Legal category:** POM. **Presentation:** Anoro® Ellipta®. 1 inhaler x 30 doses. Anoro® Ellipta® 55/22mcg. **Marketing authorisation (MA) nos:** 55/22mcg 1x30 doses [EU/1/14/898/002]; **MA holder:** Glaxo Group Ltd, 980 Great West Road, Brentford, Middlesex, TW8 9GS, UK. **Last date of revision:** October 2014. Anoro® and Ellipta® are registered trademarks of the GlaxoSmithKline group of companies. All rights reserved. Anoro® Ellipta® was developed in collaboration with Theravance, Inc.

In order to ensure that this product information reflects the most up-to-date clinical and post-marketing surveillance data, please always refer to the latest Summary of Product Characteristics (SPC) which is available from GlaxoSmithKline (Malta) Ltd (Tel: +356 21238131)

REPORTING ADVERSE EVENTS (AEs):

Malta & Gibraltar: **If you become aware of any AEs, medication errors and/or use during pregnancy in association with GSK products, please report the event promptly to:** GSK (Malta) Limited, 1, De la Cruz Avenue, Qormi QRM 2458, Malta (Tel: +356 21238131)

Malta: **alternatively, any suspected AEs and medication errors can also be reported via the national Adverse Drug Reactions (ADRs) reporting system:**

Report forms can be downloaded from www.medicinesauthority.gov.mt/adrportal and posted to the Malta Medicines Authority, Post-licensing Directorate, 203, Level 3, Rue D'Argens, Gżira GŻR 1368, MALTA, or sent by email to postlicensing.medicinesauthority@gov.mt

Gibraltar: **alternatively, any suspected AEs and medication errors can also be reported via the UK regulatory authority (MHRA):** https://yellowcard.mhra.gov.uk/

ANORO ELLIPTA was developed in collaboration with Theravance

Theravance

MLT_GIB/UCV/0004/15 Date of preparation: March 2014

AUTHORS

Dr Josie Muscat MD
started his work as a medical practitioner with a practice based in Zabbar. Through the years, he expanded his practice into a group which encompasses various hospitals and clinics, both locally and abroad. Presently, he is chairman of the Saint James Hospital Group and has recently started works on a new state-of-the-art hospital in Tarxien.

Prof. Maurice Cauchi MD MSc PhD DPH FRCPA FRCPath
was Professor of Pathology and Director of Pathology in Malta. He has published several monographs, including Health, Bioethics and the Law. For his services to the Maltese community in Australia he was made Member of the Order of Australia (AM), and given the Medalja għall-Qadi tar-Repubblika by the Maltese Government.

Prof. Albert Cilia-Vincenti MD FRCPath
is a private consultant pathologist in Malta, a scientific delegate to the European Medicines Agency (London), and Chairman of the Academy of Nutritional Medicine (London). He is a former pathology services director to the British and Maltese health services, and a former teacher of London and Malta Universities. He trained at London's Royal Marsden, Royal Free, St George's, Charing Cross and The Middlesex hospitals.

Dr David Agius MD(Melit.) MRCSEd
graduated in 2013 and obtained the MRCS in 2014. He is currently an FY2 doctor at MDH with a special interest in ophthalmic surgery. The co-authors are Dr Stefan Buttigieg, Dr Obafemi Giwa Amu, Dr Maria De Bono & Mr Mario Vella.

Dr Kathleen England MD MSc
is a consultant public health specialist within the Directorate of Health Information and Research. Her main areas of work and interest are health statistics and epidemiological research in health.

Dr Moira Mizzi MD
is a medical doctor with experience in general practice, emergency medicine, cosmetic medicine and the pharmaceutical industry; she is also a licensed Gestalt psychotherapist. She has been a regular contributor for the Times of Malta and the European Hospital Journal for many years and has been nominated twice for the European Health Journalist Award.

Dr Pierre Vassallo MD PhD FACA Artz fur Radiologie
specialised in radiology at the Institute of Clinical Radiology at the University of Muenster, Germany and the Memorial Sloan-Kettering Cancer Center, New York, US. He is currently Consultant Radiologist and Managing Director at DaVinci Hospital, Malta.

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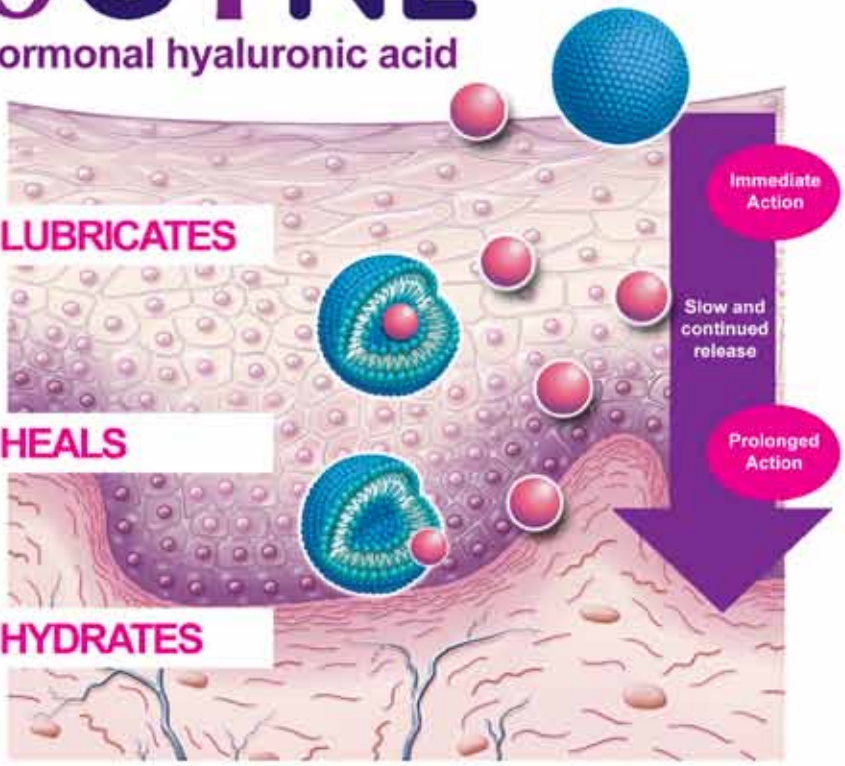

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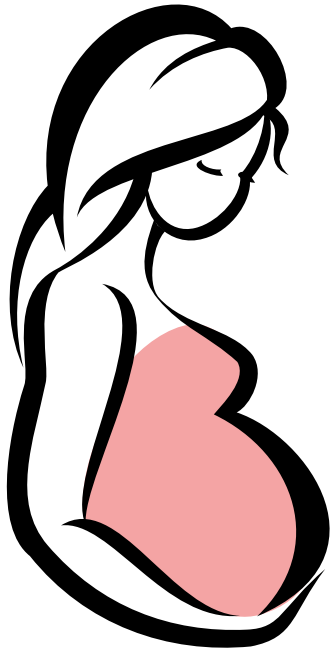

MOIRA MIZZI

IODINE IN PREGNANCY – ARE WE MISSING THE WOOD FOR THE LEAF?

Despite being a trace element and thus only required in minute quantities, iodine is of paramount importance to our survival due to its role in the synthesis of thyroid hormones which regulate cellular metabolism and energy and are especially essential during early growth, development and maturation of most organs notably the brain (vision and hearing), cardiac muscle, the pituitary gland, the kidney, reproductive organs and the bones.[1]

Following a request by the European Commission, the European Food Safety Authority (EFSA) issued a Scientific Opinion (May 2014) on the Dietary Reference Values (DRVs) for iodine, which are provided as Adequate Intake (AI), based on a large epidemiological study in European schoolchildren which used urinary iodine concentrations as a measure of adequate intake. On the grounds of this data an AI of 150mcg was postulated for adults while an AI of between 70mcg and 130mcg was thought to be required for infants (7-11 months) and children. An AI of 200mcg was proposed for pregnant and lactating women.[1]

The increased iodine requirement in pregnancy hinges around an increased production of thyroid hormone, a rise in the glomerular filtration rate and thus in iodine excretion and the increased uptake of iodine by the foetus, placenta and amniotic fluid.[1,2] Foetal thyroidogenesis starts by the twelfth wefi of pregnancy; prior to that the metabolic needs of the foetus are met by passive trans-placental transfer of thyroid hormone. Once the foetal thyroid gland function is established in the twentieth wefi, its turnover of iodine is much higher than that of the average adult.[2]

As a result, if the demand of iodine by the developing foetus is not met by adequate intake by the mother, iodine deficiency can ensue with stillbirth, spontaneous abortion and congenital abnormalities such as cretinism, developmental delay, deafness and spasticity, depending on the severity of the deficiency.[1,3] Women with inadequate iodine intake during pregnancy are also more prone to the effects of environmental pollutants that disrupt thyroid function.[2] Iodine deficiency seems to be more common in inland or mountainous regions due to the paucity of seafood consumption and iodine deficient soils. Certain food types (brassicas, sweet potato, maize and millet), albeit healthy, can also increase the daily iodine requirement since they contain goitrogens which may interfere with iodine uptake or hormone release from the thyroid gland.[4] However it can be difficult to point out the actual cause of such deficiency.[5]

The demand from the Commission came in the light of worldwide alarms from the World Health Organisation (WHO), the International Council for the Control of Iodine Deficiency Disorders and The United Nations Children's Fund (UNICEF) about the lingering scourge of iodine deficiency in 54 countries despite the adoption of universal salt iodisation in 1993.[5] In fact, despite substantial public health advances, iodine deficiency still affects 1.92 billion people globally[6] making it "the world's most prevalent, yet easily preventable, cause of brain damage".[5]

The recommended daily level of iodine can be maintained by adequate dietary intake. In many regions, this is met through food or drinking water or by the iodisation of salt. If dietary iodine intake is insufficient, supplementation in prenatal vitamins is necessary. This is usually available either in the form of kelp or potassium iodide; however the latter is a more reliable source. However, excessive intake of such supplements before the 36th wefi of gestation can result in foetal hypothyroidism as the inhibition of thyroglobulin iodination (Wolff-Chaikoff effect) would not have developed fully.[2]

While the eradication of severe iodine deficiency is indisputable, the importance of tackling mild to moderate deficiency and its effect on maternal thyroid function and foetal development cannot be overlooked. In fact, iodine supplementation in the form of potassium iodide is being advocated as soon the woman discovers she is pregnant or better still as part of the preconception planning.[2,7]

It is calculated that currently, only 50% of pregnant mothers take iodine supplements, either alone or as part of a multivitamin preparation. Total eradication of any form of iodine deficiency is only conceivable if this present uptake is addressed by all the parties involved including medical organisations, pharmaceutical companies and clinicians.[5] More research should also be carried out about the impact of iodine supplementation during lactation.[2] After all, this involves the well-being of our children and of our future societies and thus we cannot sit back in a collective lull only to have to eventually combat various forms of thyroid pathologies, infant mortality, congenital abnormalities and developmental insufficiencies. It would be like missing the wood for a leaf.

REFERENCES CAN BE ACCESSED ON THESYNAPSE.NET

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THE FIRST ONCE-DAILY DUAL BRONCHODILATOR
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Once-daily ULTIBRO BREEZHALER is indicated as maintenance bronchodilator treatment to relieve symptoms in adult patients with chronic obstructive pulmonary disease (COPD).[1]

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▼This medicinal product is subject to additional monitoring. This will allow quick identification of new safety information. Healthcare professionals are asked to report any suspected adverse reactions. Refer to section 4.8 of the SmPC for how to report adverse reactions. **PRESENTATION:** Each capsule contains 143 µg of indacaterol maleate equivalent to 110 µg of indacaterol and 63 µg of glycopyrronium bromide equivalent to 50 µg of glycopyrronium. Each delivered dose (the dose that leaves the mouthpiece of the inhaler) contains 110 µg of indacaterol maleate equivalent to 85 µg of indacaterol and 54 µg of glycopyrronium bromide equivalent to 43 µg of glycopyrronium. **INDICATIONS:** Ultibro Breezhaler is indicated as a maintenance bronchodilator treatment to relieve symptoms in adult patients with chronic obstructive pulmonary disease (COPD). **DOSAGE AND ADMINISTRATION:** The recommended dose is the inhalation of the content of one capsule once daily using the Ultibro Breezhaler inhaler. Ultibro Breezhaler is recommended to be administered at the same time of the day each day. If a dose is missed, it should be taken as soon as possible on the same day. Patients should be instructed not to take more than one dose in a day. Ultibro Breezhaler can be used at the recommended dose in elderly patients (75 years of age and older). Ultibro Breezhaler can be used at the recommended dose in patients with mild to moderate renal impairment. In patients with severe renal impairment or end-stage renal disease requiring dialysis it should be used only if the expected benefit outweighs the potential risk. Ultibro Breezhaler can be used at the recommended dose in patients with mild and moderate hepatic impairment. There are no data available for the use of Ultibro Breezhaler in patients with severe hepatic impairment, therefore caution should be observed in these patients. There is no relevant use of Ultibro Breezhaler in the paediatric population (under 18 years) in the indication COPD. The safety and efficacy of Ultibro Breezhaler in children have not been established. No data are available. Method of administration: For inhalation use only. The capsules must not be swallowed. The capsules must be administered only using the Ultibro Breezhaler inhaler. Patients should be instructed on how to administer the product correctly. Patients who do not experience improvement in breathing should be asked if they are swallowing the medicine rather than inhaling it. **CONTRAINDICATIONS:** Hypersensitivity to the active substance or to any of the other excipients. **WARNINGS/PRECAUTIONS:** Ultibro Breezhaler should not be administered concomitantly with medicinal products containing other long acting beta adrenergic agonists or long acting muscarinic antagonists, the pharmacotherapeutic groups to which the components of Ultibro Breezhaler belong. Asthma: Ultibro Breezhaler should not be used for the treatment of asthma due to the absence of data in this indication. Long acting beta2 adrenergic agonists may increase the risk of asthma related serious adverse events, including asthma related deaths, when used for the treatment of asthma. Not for acute use: Ultibro Breezhaler is not indicated for the treatment of acute episodes of bronchospasm. Hypersensitivity related to indacaterol or glycopyrronium. Immediate hypersensitivity reactions have been reported after administration of indacaterol, one of the components of Ultibro Breezhaler. If signs suggesting allergic reactions (in particular, difficulties in breathing or swallowing, swelling of tongue, lips and face, urticaria, skin rash) occur, treatment should be discontinued immediately and alternative therapy instituted. *Paradoxical bronchospasm*: In clinical studies with Ultibro Breezhaler, paradoxical bronchospasm was not observed. However, paradoxical bronchospasm has been observed with other inhalation therapy and can be life threatening. If this occurs, treatment should be discontinued immediately and alternative therapy instituted. *Narrow-angle glaucoma*: No data are available in patients with narrow angle glaucoma, therefore Ultibro Breezhaler should be used with caution in these patients. Patients should be informed about the signs and symptoms of acute narrow angle glaucoma and should be informed to stop using Ultibro Breezhaler should any of these signs or symptoms develop. *Urinary retention*: No data are available in patients with urinary retention, therefore Ultibro Breezhaler should be used with caution in these patients. Patients with severe renal impairment: These patients should be monitored closely for potential adverse reactions. *Cardiovascular effects:* Ultibro Breezhaler should be used with caution in patients with cardiovascular disorders (coronary artery disease, acute myocardial infarction, cardiac arrhythmias, hypertension). *Hypokalaemia*: Beta2 adrenergic agonists may produce significant hypokalaemia in some patients, which has the potential to produce adverse cardiovascular effects. The decrease in serum potassium is usually transient, not requiring supplementation. In patients with severe COPD, hypokalaemia may be potentiated by hypoxia and concomitant treatment, which may increase the susceptibility to cardiac arrhythmias. Clinically relevant effects of hypokalaemia have not been observed in clinical studies of Ultibro Breezhaler at the recommended therapeutic dose. *Hyperglycaemia* Inhalation of high doses of beta2 adrenergic agonists may produce increases in plasma glucose. Upon initiation of treatment with Ultibro Breezhaler plasma glucose should be monitored more closely in diabetic patients. Ultibro Breezhaler should be used with caution in patients with convulsive disorders or thyrotoxicosis, and in patients who are unusually responsive to beta2 adrenergic agonists. Patients with rare hereditary problems of galactose intolerance, the Lapp lactase deficiency or glucose galactose malabsorption should not take this medicine. *Pregnancy and Lactation*: There are no data from the use of Ultibro Breezhaler in pregnant women available. Indacaterol may inhibit labour due to a relaxant effect on uterine smooth muscle. Therefore, Ultibro Breezhaler should only be used during pregnancy if the expected benefit to the patient justifies the potential risk to the foetus. It is not known whether indacaterol, glycopyrronium and their metabolites are excreted in human milk. The use of Ultibro Breezhaler by breast feeding women should only be considered if the expected benefit to the woman is greater than any possible risk to the infant. **INTERACTIONS:** Information on the potential for interactions is based on the potential for each of its two components. Beta adrenergic blockers may weaken or antagonise the effect of beta2 adrenergic agonists. Therefore Ultibro Breezhaler should not be given together with beta-adrenergic blockers (including eye drops) unless there are compelling reasons for their use. Where required, cardioselective beta adrenergic blockers should be preferred, although they should be administered with caution. The co administration of Ultibro Breezhaler with other anticholinergic containing medicinal products has not been studied and is therefore not recommended. Concomitant administration of other sympathomimetic agents (alone or as part of combination therapy) may potentiate the adverse events of indacaterol. Concomitant hypokalaemic treatment with methylxanthine derivatives, steroids, or non-potassium-sparing diuretics may potentiate the possible hypokalaemic effect of beta2-adrenergic agonists, therefore use with caution. Inhibition of the key contributors of indacaterol clearance, CYP3A4 and P glycoprotein (P gp), raises the systemic exposure of indacaterol up to two fold. The magnitude of exposure increases due to interactions does not raise any safety concerns given the safety experience of treatment with indacaterol in clinical studies of up to one year at doses up to twice the maximum recommended indacaterol dose. **ADVERSE REACTIONS:** The presentation of the safety profile is based on the experience with Ultibro Breezhaler and the individual components. Ultibro Breezhaler showed similar adverse reactions to the individual components. As it contains indacaterol and glycopyrronium, the type and severity of adverse reactions associated with each of these components may be expected in the combination. The most common adverse reactions with Ultibro Breezhaler are: Upper respiratory tract infections. Common: Pyrexia, chest pain, musculoskeletal pain, dyspepsia, dental Caries, gastroenteritis, cough, oropharyngeal pain including throat irritation, dizziness, headache, nasopharyngitis, urinary tract infections, sinusitis, rhinitis, chest Pain, oropharyngeal pain including throat irritation. Uncommon: Fatigue, peripheral oedema, muscle spasm, myalgia, pain extremity, bladder obstruction and urinary retention, dry mouth, pruritis, rash, glaucoma, myalgia, musculoskeletal pain, pruritis/rash, paradoxical bronchospasm, epistaxis, tachycardia, palpitations, hypersensitivity, diabetes mellitus and hyperglycaemia, insomnia. Please refer to SmPC for a full list of adverse events for Ultibro Breezhaler. **LEGAL CATEGORY:** POM **PACK SIZES:** Single pack containing 6x1 or 30x1 hard capsules, together with one inhaler. **MARKETING AUTHORISATION HOLDER:** Novartis Europharm Limited, Frimley Business Park Camberley GU16 7SR, United Kingdom **MARKETING AUTHORISATION NUMBERS:** EU/1/13/862/001 - EU/1/13/862/003 **Please refer to Summary of Product Characteristics (SmPC) before prescribing.** Full prescribing information is available on request from Novartis Pharma Services Inc, Representative Office Malta P.O Box 4, Marsa, MRS 1000 Malta. Tel: +35621222872 2015-MT-ULT-26-JAN-2015

1. Novartis Europharm Ltd. Ultibro Breezhaler Summary of Product Characteristics.

ONCE DAILY
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inhalation powder

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ULT Ad1 05/15 MT

AUDIT ON A-SCAN USE PRIOR TO CATARACT SURGERY IN MATER DEI HOSPITAL

DAVID AGIUS
STEFAN BUTTIGIEG
OBAFEMI GIWA AMU
MARIA DE BONO
MARIO VELLA

BACKGROUND

The A-scan is a method of measurement of the ocular axial length (L). It is coupled with corneal curvature keratometry (K) readings so that one can measure the required power (P) of an intraocular lens (IOL) used for cataract surgery. The Sanders, Retzlaff and Kraft (SRK) formula calculates the required P of the IOL as P = A – 2.5L – 0.9K where A is the specific IOL constant. The power of the lens determines the refraction of the image onto the retina and thus determines the visual acuity of the eye. The axial length of the eye is measured by the time a signal takes to be reflected back to the source, like ultrasound or light. Distance is calculated by the velocity formula, depending on the speed of the signal.[1] In Mater Dei hospital, two methods are used to determine the axial length of the eye prior to cataract surgery, namely an ultrasound method and an optical method.

AIM

To assess the proportion of use of each A-scan method, identify whether they are yielding different results and see whether one should be used over the other.

Figure 1: Visual acuity: logMAR scale (x axis) vs frequency (y axis).

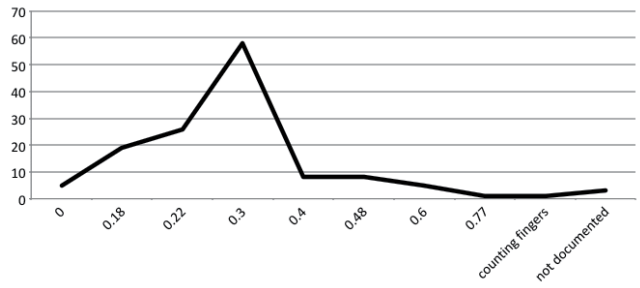


Table 1: Comparison between the estimated average power outcome and the actual average postoperative refraction in Dioptres when either scan method was used. The difference in postoperative average uncorrected visual acuities is negligible.

A-scan method	Matched desired refraction (Dioptres)	Refraction of eye post-op (Dioptres)	Average Uncorrected Visual Acuity (logMAR)
Lenstar®	-0.09	-0.17	0.29
Ultrasound	0.067	-0.49	0.27

METHOD

This is a retrospective audit where notes from post-operative refraction visits were used in order to check the A-scan method, i.e. ultrasound method vs optical method, and the postoperative visual acuity and refraction. The notes of post-operative refractions done from November to December 2014 were taken into account.

RESULTS

97% of the 135 patients that were operated under local anaesthesia and the majority of the patients undergoing cataract surgery were female (57%).

55% of the A-scans were performed using the Lenstar® optical technology while 38% were performed using the ultrasound method. The remaining 7% had both modalities used. No major difference was noted between the post-operative refraction and resulting visual acuity of these two types of scans.

Figure 1 shows the wide range of visual acuities identified following the surgeries performed using both methods of A-scan. The logMAR scale was used. The mode for the Visual Acuity was 0.3 which is equivalent to 6/12 on the Snellen chart.

The average visual acuity and refraction post-surgery for each patient was calculated and linked to the A-scan method which was previously used. Table 1 shows that there is no such difference in the post-operative visual acuity when either A-scan method is used.

DISCUSSION

It is found out that both A-scan methods yield similar results in Mater Dei Hospital. Similar findings were also reported by Naicker et al.[2] These two techniques are equally useful especially when considering the fact that they make up for each other's disadvantages. The ultrasound method is invasive and can transmit infections because of direct eye contact but has the advantage that it works better than the Lenstar® with an uncooperative patient who cannot fixate his eyes on the machine. It is also better than the Lenstar® when it comes to dense subcapsular cataracts.[3] The optical method is on the other hand preferable in shorter eyes.[1] The use of ultrasound is also dependant on the user experience. However, Findl et al found no differences in outcomes between the ultrasound and the optical method as long as the user using the ultrasound method is experienced.[4]

CONCLUSION

Both A-scan techniques give similar post-operative visual acuities. They are equally useful since they accommodate different scenarios in view of their advantages and disadvantages.

REFERENCES CAN BE ACCESSED ON THESYNAPSE.NET

JOSIE MUSCAT

NOVEL TREATMENT OF ERECTILE DYSFUNCTION

Erectile dysfunction (ED) is common worldwide.

Nonetheless, contrary to popular belief, it is a symptom and not a disease. Some patients suffering from this condition may not be properly assessed or they might be receiving treatment for an underlying disease or condition that may be actually causing erectile dysfunction.

ED may be autogenic, psychogenic or mixed. Some risk factors show a link with cardiovascular disease, namely heavy alcohol use, tobacco use, being overweight, diabetes, hypertension and stress.

Diagnosis typically involves a basic work up that includes sexual history, physical examination, laboratory testing and specialised diagnostic tests.

Treatment options for ED include changing modifiable or reversible risk factors including lifestyle or drug-related factors, phosphodiesterase-5 inhibitors, intra-cavernous injections, combination therapy, intraurethral/topical alprostadil and penal prosthesis as third line therapy.

A recently developed treatment is the **Low Intensity Shockwave Therapy** (LIST) which, accompanied by autologous stem cell therapy, is an effective cure for ED sufferers, prevalent among which are diabetic patients.

LIST has angiogenic properties and stimulates neo-vascularisation. It can improve penal blood flow and stimulate neo-vascularisation. It has been found to be most effective in patients responsive to phosphodiesterase-5 inhibitors.

Autologous stem cells injected into the corpora cavernosa together with LIST stimulate penal vascular regeneration which is required for penal erection. LIST involves applying shock pulses at five sites along the penal shaft and crura. A number of sessions are involved in this treatment.

Both autologous stem cell therapy and erectile dysfunction shock wave therapy are available at Saint James Hospital, Żabbar.

BENEFITS OF LIST

- Proven clinical results
- Long term effect
- Triggers the body's natural repair mechanism
- Pain free – short treatment with no reported side-effects
- Suitable for additional urologic applications

The treatment is completely safe, non-invasive and no medications are used with no reported side-effects. Patients are able to return to their daily routines immediately following each treatment session.

Each session takes approximately 20 minutes. The entire treatment protocol consists of several sessions, which are conducted over a few wefis' time.

HOW SOON CAN IMPROVEMENT BE NOTICED? HOW LONG WILL IT LAST?

Patients report discernible improvement within two wefis of beginning the treatment, with a high rate of satisfaction for more than a year following treatment – without reliance on phosphodiesterase-5 inhibitors.

MAURICE CAUCHI

US VS EUROPE: ARE THERE ANY MAJOR DIFFERENCES IN ETHICAL STANDARDS?

IMPLICATIONS FOR PRACTICE IN MALTA

A recent survey[1] involving over 21,000 physicians highlights differences in practice between American and European doctors.

The following is a summary of the major findings. It shows the proportion of doctors who agree with the given statement.

1. European doctors are more prepared to massage the risks to a patient in order to obtain consent to a treatment they believe is useful (Europe 28% compared to 10% in US).
2. More European doctors believe that life support is being withdrawn too soon (25 vs 14%).
3. European doctors more often do not report domestic abuse when they suspect it is happening (20 vs 11%).
4. A small proportion of doctors would still give life-sustaining therapy even when considered futile (21 vs 19%).
5. Perhaps the greatest disparity between the two groups related to whether they would go against a family's wishes and continue treating a patient who they considered had a chance of recover (55 vs 22%).
6. Nearly half of the doctors stated that physician-assisted suicide should be allowed, although this issue was less popular with European doctors (41 vs 54%).
7. The question of whether one should cover up a mistake was also tackled. The response depended on whether this would harm the patient or not. If not, there was a considerable proportion of those who agreed, particularly European doctors (37 vs 19%). On the other hand, very few agreed with this statement (9 vs 3%) when there was a likelihood of harm resulting to the patient.
8. One relevant and important issue dealt with the provision of expensive intensive care to a baby who has a high likelihood of dying or have a terrible quality of life. About a third of respondents (32 vs 31%) responded in the affirmative, with no difference between the two groups.
9. Likewise, should one reserve costly or scarce medication for younger rather than older people? One-fourth of doctors (26%) answered in the affirmative, with no difference between the two groups.
10. In relation to difficult patients, those who demand treatment even when not required, several doctors (37% and 42% respectively) said that they would prescribe a placebo or an innocuous treatment.
11. One issue which is very relevant to local practice relates to whether one would hide information relating to a terminal diagnosis, with the aim of not frightening the patient. Many more European than US doctors said that they would do so (46 vs 21%).
12. A ticklish question: is it ever acceptable to become involved in a romantic or sexual relations with a patient? Only a few percent (5 vs 1%) agreed with this. Several others qualified this by stating that it would be acceptable 6 – 12 months after ending the medical relationship.
13. One major issue relates to the role of the doctor as 'big brother'. A question analysed whether one would report a doctor friend or colleague who seems to be impaired by drugs, alcohol or illness. Far fewer doctors from Europe would do this compared to US doctors (45 vs 77%).
14. The role of the family in controlling a patient's life is very much an issue within the Maltese community. A question asked whether you would withhold information from a patient if a relative asks you to do so. Although only a minority stated that they would do so, there were twice as many European doctors who would do so compared to US doctors (23 vs 12%).
15. Should smokers, obese patients and those engaged in unhealthy b›aviour be made to pay more for health insurance, etc . Many agreed that this should be so (58 vs 69%).
16. Another very important public health issue relates to whether you would breach patient confidentially and report a patient suffering from a condition (e.g. a communicable disease) which could harm others. The majority said that they would, with more US doctors being prepared to do this (57 vs 66%).
17. Would you accept payment or other inducements (e.g. lunches) by drug representatives without it influencing prescribing habits. About half of respondents responded in the affirmative (52 vs 59%).
18. Finally, should physicians be randomly tested for drugs or alcohol abuse. Many more European doctors agreed with this compared to US doctors (56 vs 39%).

A number of other questions were asked (e.g. about abortion, etc) which do not appear relevant to the situation in Malta.

CONCLUSIONS

In summary, one could say that European doctors appear to be more conservative and more paternalistic than their US colleagues. They are more likely to be guided by demands from their patients and their relatives, and they are more likely to go softly in giving bad news to a patient.

It would be interesting to see how far Maltese doctors would follow the example of their European colleagues, or even if they would be more conservative? A survey of this nature would be of interest.

REFERENCES CAN BE ACCESSED ON THESYNAPSE.NET

GALVUS and EUCREAS

COMPREHENSIVE POWER TO ADVANCE TYPE 2 DIABETES TREATMENT

GALVUS is a DPP-4 inhibitor that improves glycemic control through powerful islet enhancement[1]

EUCREAS is the combination of a DPP-4 inhibitor, GALVUS, and metformin[2]

Galvus®

PRESENTATION: Each tablet contains 50 mg of Vildagliptin **INDICATIONS:** For the treatment of type 2 diabetes mellitus in adults: As monotherapy in patients inadequately controlled by diet and exercise alone and for whom metformin is inappropriate due to contraindications or intolerance. As dual oral therapy in combination with: metformin in patients with insufficient glycaemic control despite maximal tolerated dose of monotherapy with metformin; a sulphonylurea in patients with insufficient glycaemic control despite maximal tolerated dose of a sulphonylurea and for whom metformin is inappropriate due to contraindications or intolerance; a thiazolidinedione in patients with insufficient glycaemic control and for whom the use of a thiazolidinedione is appropriate. As triple oral therapy in combination with a sulphonylurea and metformin when diet and exercise plus dual therapy with these medicinal products do not provide adequate glycaemic control. Vildagliptin is also indicated for use in combination with insulin (with or without metformin) when diet and exercise plus a stable dose of insulin do not provide adequate glycaemic control. **DOSAGE:** When used as monotherapy in combination with thiazolidinedione, in combination with metformin and a sulphonylurea or in combination with insulin (with or without metformin), the recommended daily dose of Vildagliptin is 100mg, administered as one dose of 50 mg in the morning and one dose of 50 mg in the evening. When used in combination with a sulphonylurea, a lower dose of the sulphonylurea may be considered to reduce the risk of hypoglycaemia. Galvus can be administered with or without a meal. Doses greater than 100 mg are not recommended. Galvus is not recommended for use in children and adolescents (< 18 years). The safety and efficacy of Galvus in children and adolescents (< 18 years) have not been established. No data are available. The recommended dose for patients with moderate/severe renal impairment is 50mg once daily. If a dose of Galvus is missed, it should be taken as soon as the patient remembers. A double dose should not be taken on the same day. No dose adjustments are necessary in elderly patients (≥ 65 years. The safety and efficacy of Vildagliptin as triple oral therapy in combination with metformin and a thiazolidinedione have not been established. **CONTRAINDICATIONS:** Hypersensitivity to the active substance or to any of the excipients **WARNINGS / PRECAUTIONS:** Galvus should not be used in patients with type 1 diabetes or for the treatment of diabetic ketoacidosis. There is limited experience in patients with ESRD on haemodialysis. Therefore Galvus should be used with caution in these patients. Galvus is not recommended in patients with hepatic impairment, including patients with pre-treatment ALT or AST >3x the ULN. Liver function tests should be performed prior to treatment initiation, at three month intervals during the first year and periodically thereafter. Should an increase in AST or ALT of 3xULN or greater persist, withdrawal of Galvus therapy is recommended. Patients who develop jaundice or other signs suggestive of liver dysfunction should discontinue Galvus. Clinical experience in patients with NYHA functional class III treated with Vildagliptin is still limited and results are inconclusive. Routine monitoring of diabetic patients for skin disorders such as blistering or ulceration is recommended. Patients with rare hereditary problems of galactose intolerance, the Lapp lactase deficiency or glucose-galactose malabsorption should not take this medicine. Galvus should not be administered during pregnancy or breast-feeding since no studies on the effect on human fertility have been conducted for Galvus. Should be used with caution in patients with renal impairment. Sulphonylureas are known to cause hypoglycaemia. Patients receiving Vildagliptin in combination with a sulphonylurea may be at risk for hypoglycaemia. Therefore, a lower dose of sulphonylurea may be considered to reduce the risk of hypoglycaemia. Use of Vildagliptin has been associated with a risk of developing acute pancreatitis. If pancreatitis is suspected, Vildagliptin should not be restarted. Caution should be exercised in patients with a history of acute pancreatitis. **INTERACTIONS:** Vildagliptin has a low potential for drug interactions. No clinically relevant interactions with other antidiabetics (glyburide, pioglitazone, metformin), amlodipine, digoxin, ramipril, simvastatin, valsartan or warfarin were observed after co-administration with Vildagliptin. As with other oral antidiabetic medicines, the hypoglycaemic effect of Vildagliptin may be reduced by certain active substances, including thiazides, corticosteroids, thyroid products and sympathomimetics. **ADVERSE REACTIONS:** Rare cases (>1/10,000 to <1/1,000) angioedema, abnormal liver function tests, hepatic dysfunction (including hepatitis). Monotherapy: Common (>1/100 to <1/10): dizziness, Uncommon (>1/1,000 to <1/100): headache, constipation, arthralgia, hypoglycaemia, oedema peripheral. Very rare (<1/10,000): URTI, nasopharyngitis. Combination with metformin: Common: tremor, headache, dizziness, nausea, hypoglycaemia, hyperhidrosis, asthenia. Uncommon: fatigue. Combination with sulphonylurea: Common: tremor, headache, dizziness, asthenia, hypoglycaemia. Uncommon: constipation. Very rare: nasopharyngitis. Combination with Thiazolidinedione: Common: weight increase, oedema peripheral, Uncommon: headache, asthenia, hypoglycaemia. Combination with insulin: Common: decreased blood glucose, headache, chills, nausea, gastro-oesophageal reflux disease. Uncommon: Diarrhoea, flatulence. Frequency not known: urticaria, pancreatitis, hepatitis and abnormal liver function tests (reversible upon discontinuation of the medicinal product), bullous or exfoliative skin lesions. Combination with metformin and a sulphonylurea: Common: hypoglycaemia, dizziness, tremor, hyperhidrosis, asthenia. **LEGAL CATEGORY:** POM **PACK SIZES:** 7, 28 tablets **MARKETING AUTHORISATION HOLDER:** Novartis Europharm Limited, Frimley Business Park Camberley GU16 7SR United Kingdom. **MARKETING AUTHORISATION NUMBERS:** EU/1/07/414/001, 003. **Please refer to Summary of Product Characteristics (SmPC) before prescribing.** Full prescribing information is available on request from Novartis Pharma Services Inc, Representative Office Malta, P.O. Box 4, Marsa, MRS 1000, Malta. Tel +356 21222872. 2014-MT- GAL-10-DEC-2014

Eucreas®

PRESENTATION: Each 50 mg/500 mg film-coated tablet contains 50 mg of Vildagliptin and 500 mg Metformin hydrochloride. Each 50 mg/1000 mg film-coated tablet contains 50 mg of Vildagliptin and 1000 mg Metformin hydrochloride. **INDICATIONS:** Eucreas is indicated in the treatment of type 2 diabetes mellitus patients, indicated in the treatment of adult patients who are unable to achieve sufficient glycaemic control at their maximally tolerated dose of oral metformin alone or who are already treated with the combination of Vildagliptin and Metformin as separate tablets. Eucreas is indicated in combination with a sulphonylurea (i.e. triple combination therapy) as an adjunct to diet and exercise in adult patients inadequately controlled with metformin and a sulphonylurea. Eucreas is indicated in triple combination therapy with insulin as an adjunct to diet and exercise to improve glycaemic control in adult patients when insulin at a stable dose and metformin alone do not provide adequate glycaemic control. **DOSAGE:** The dose of antihyperglycaemic therapy with Eucreas should be individualised on the basis of the patient's current regimen, effectiveness and tolerability while not exceeding the maximum recommended daily dose of 100 mg vildagliptin. Eucreas may be initiated at either the 50 mg/500 mg or 50 mg/1000 mg tablet strength twice daily, one tablet in the morning and the other in the evening. For patients inadequately controlled at their maximal tolerated dose of metformin monotherapy: The starting dose of Eucreas should provide vildagliptin as 50 mg twice daily (100 mg total daily dose) plus the dose of metformin already being taken. For patients switching from coadministration of vildagliptin and metformin as separate tablets: Eucreas should be initiated at the dose of vildagliptin and metformin already being taken. For patients inadequately controlled on dual combination with metformin and a sulphonylurea: The doses of Eucreas should provide vildagliptin as 50 mg twice daily (100 mg total daily dose) and a dose of Metformin similar to the dose already being taken. When Eucreas is used in combination with a sulphonylurea, a lower dose of the sulphonylurea may be considered to reduce the risk of hypoglycaemia. For patients inadequately controlled on dual combination therapy with insulin and the maximal tolerated dose of metformin: The dose of Eucreas should provide vildagliptin dosed as 50 mg twice daily (100 mg total daily dose) and a dose of Metformin similar to the dose already being taken. Eucreas should be taken with or just after food to reduce gastrointestinal symptoms associated with Metformin. Patients > 65 taking Eucreas should have their renal function monitored regularly. Eucreas is not recommended for use in patients less than 18 years old. For use in renal or hepatic impairment, see contraindications and precautions below or refer to the SmPC for more information. The safety and efficacy of vildagliptin and Metformin as triple oral therapy in combination with a thiazolidinedione have not been established. **CONTRAINDICATIONS:** Hypersensitivity to Vildagliptin or Metformin hydrochloride or to any of the excipients. Diabetic ketoacidosis or diabetic pre-coma. Renal failure or renal dysfunction defined as creatinine clearance < 60 ml/min. Acute conditions with the potential to alter renal function e.g. dehydration, severe infection, shock or intravascular administration of iodinated contrast agents. Acute or chronic disease which may cause tissue hypoxia e.g. cardiac or respiratory failure, recent myocardial infarction, shock, hepatic impairment, acute alcohol intoxication, alcoholism, lactation. **WARNINGS / PRECAUTIONS:** Eucreas is not a substitute for insulin in insulin-requiring patients and should not be used in patients with type 1 diabetes. Due to the risk of lactic acidosis, renal function could be monitored at least once yearly in patients with normal renal function and at least two to four times/year in patients with serum creatinine at the upper limit of normal and in elderly patients. Eucreas is not recommended in patients with hepatic impairment, including patients with pre-treatment ALT or AST >2x the ULN. LFTs should be performed prior to treatment initiation, at three month intervals during the first year and periodically thereafter. Should an increase in AST or ALT of 3x ULN or greater persist, withdrawal of Eucreas therapy is recommended. Patients who develop jaundice or other signs suggestive of liver dysfunction should discontinue Eucreas. Routine monitoring of diabetic patients for skin disorders such as blistering or ulceration is recommended. As Eucreas contains metformin, treatment should be discontinued 48 hours before elective surgery with general anaesthesia and not usually resumed earlier than 48 hours afterwards. The IV administration of iodinated contrast agents can lead to renal failure. Therefore due to Metformin active ingredient, Eucreas should be discontinued prior to or at the time of the test and not reinstituted until 48 hours afterwards and only after renal function has been re-evaluated and found to be normal. Eucreas should not be administered during pregnancy or lactation. Sulphonylureas are known to cause hypoglycaemia. Patients receiving Vildagliptin in combination with a sulphonylurea may be at risk for hypoglycaemia. Therefore, a lower dose of sulphonylurea may be considered to reduce the risk of hypoglycaemia. The use of Vildagliptin has been associated with a risk of developing acute pancreatitis. If pancreatitis is suspected, vildagliptin should be discontinued. If acute pancreatitis is confirmed, Vildagliptin should not be restarted. Caution should be exercised in patients with a history of acute pancreatitis. **INTERACTIONS:** Vildagliptin has a low potential for drug interactions. No clinically relevant interactions with other antidiabetics (glyburide, pioglitazone, metformin), amlodipine, digoxin, ramipril, simvastatin, valsartan or warfarin were observed after co-administration with Vildagliptin. Interactions with Metformin hydrochloride that are not recommended include alcohol, cationic active substances e.g. cimetidine and intravascular administration of iodinated contrast media. Combinations requiring caution include metformin hydrochloride with medicines tending to produce hyperglycaemic activity e.g. glucocorticoids, beta agonists and diuretics. The dose of antihyperglycaemic medicinal products may need to be adjusted in combination with ACE inhibitors. **ADVERSE REACTIONS:** Rare cases (>1/10,000 to <1/1,000) angioedema, hepatic dysfunction (including hepatitis) have been reported with vildagliptin. Vildagliptin Monotherapy: Common (>1/100 to <1/10): dizziness, Uncommon (>1/1,000 to <1/100): headache, constipation, arthralgia, hypoglycaemia, oedema peripheral. Very rare (<1/10,000): URTI, nasopharyngitis. Metformin monotherapy: Very common (>1/10) Nausea, vomiting, diarrhoea, abdominal pain and loss of appetite. Common: metallic taste. Combination Vildagliptin with Metformin: Common: tremor, headache, dizziness, nausea, hyperglycaemia. Uncommon: fatigue. Combination with Metformin and sulphonylurea: Common: hypoglycaemia, dizziness, tremor, hyperhidrosis, asthenia, decreased blood glucose, headache, chills. Combination with: Insulin. Decreased blood glucose, headache, chills, nausea, gastro-oesophageal reflux disease, diarrhoea, flatulence. For a full list of Adverse reactions, please refer to the SmPC. **LEGAL CATEGORY:**POM **PACK SIZES:** 30, 60 film-coated tablets **MARKETING AUTHORISATION HOLDER:** Novartis Europharm Limited, Wimblehurst Road, Horsham, West Sussex, RH12 5AB, United Kingdom. **MARKETING AUTHORISATION NUMBER:** EU/1/07/426/003-003, EU/1/07/426/009-009. **Please refer to Summary of Product Characteristics (SmPC) before prescribing.** Full prescribing information is available upon request from: Novartis Pharma Services Inc, Representative Office Malta, P.O. Box 4, Marsa, MRS 1000, Malta. Tel:+356 21222872. 2014-MT-EUC-09-JUN-2014

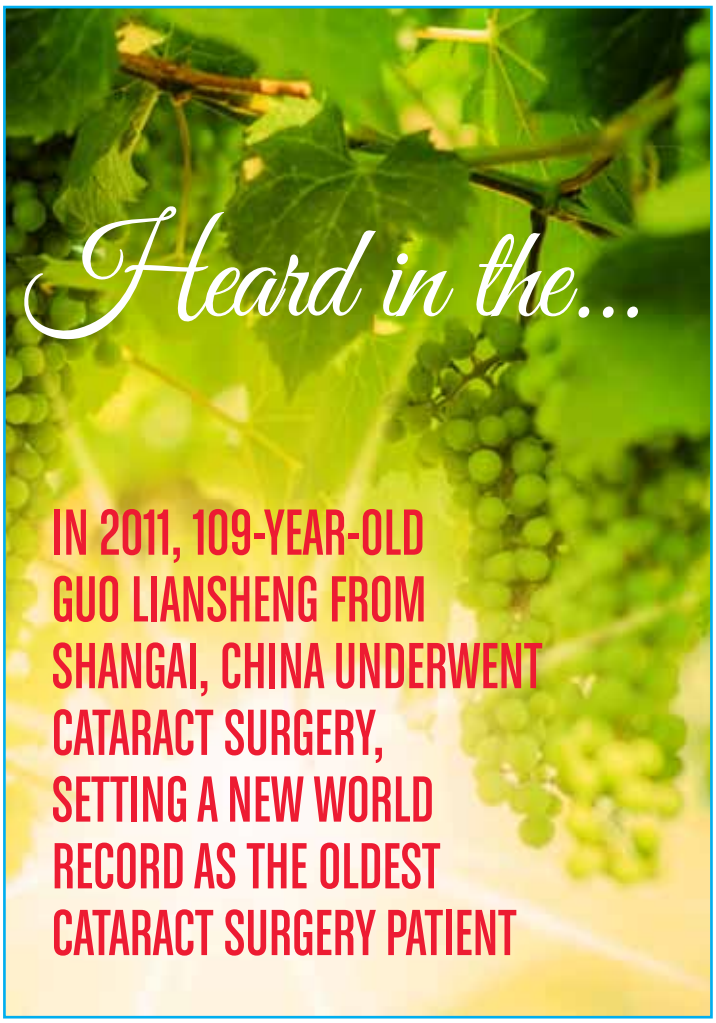
GAL Ad1 05/15 MT

NOVARTIS PHARMACEUTICALS

1. Novartis Europharm Ltd. Galvus® Summary of Product Characteristics
2. Novartis Europharm Ltd. Eucreas® Summary of Product Characteristics

Galvus vildagliptin

Eucreas vildagliptin/metformin



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THIS MONTH IN *medical history*

128 YEARS AGO

10 June 1735 – Birth of Dr John Morgan, the physician responsible for establishing the Medical College at the Pennsylvania University, America's first medical school. He also founded the American Philosophical Society in 1766 in Philadelphia.

133 YEARS AGO

17 June 1882 - Birth of Dr Harold Gillies, who was widely considered the father of plastic surgery. In addition to his career as a surgeon, he was also a champion golfer.

66 YEARS AGO

23 June 1949 - First twelve women graduate from Harvard Medical School.

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3. 
INTERPRETING ULTRASOUND IMAGES USING AN APP

EPIDEMIOLOGY OF CARDIOVASCULAR MORTALITY IN THE MALTESE ISLANDS

KATHLEEN ENGLAND

ABSTRACT

Cardiovascular diseases which comprise cardiac causes (most commonly ischemic heart disease and heart failure), cerebrovascular disease and other vascular conditions are the leading cause of death in Europe and worldwide. Despite a downward trend in cardiovascular mortality in many European countries, large disparities exist. Locally, cardiovascular mortality accounted for 40% of all deaths or 1298 deaths in 2013.

INTRODUCTION

Global deaths from cardiovascular disease (CVD) are increasing as a result of population growth, the ageing of populations, and epidemiologic changes in disease.[1] The World Health Organisation estimated that 31% of all deaths worldwide (17.5 million deaths) were caused by CVD in 2012,[2] more than all communicable, maternal, neonatal and nutritional disorders combined, and double the number of deaths caused by cancers.[3]

Global deaths from CVD increased by 41% between 1990 and 2013 despite a 39% decrease in age-specific death rates; this increase was driven by a 55% increase in mortality due to the aging of the populations and a 25% increase due to population growth. The relative contribution of these drivers varied by region; only Central and Western Europe had gains in cardiovascular health that were sufficient to offset these demographic forces.[1]

CVD is the leading cause of death in Europe, with 51% of women and 42% of men dying from this disease (40 of the 52 countries provided data up to 2012). The gender difference in the proportional contribution of CVD is driven far more by stroke and other CVD rather than coronary heart disease. Three in every ten deaths of Europeans aged < 65 years and 37% of all deaths occurring < 75 years are attributable to CVD.[4]

However, there are wide variations between countries in Europe. Some countries have identified cancer as being the commonest cause of death in men (e.g. Belgium, Denmark, France, Luxembourg, Netherlands, Portugal, Spain, Slovenia and San Marino) and for the first time, cancer has surpassed CVD as a cause of death among women in Denmark. In other countries (21 European countries) CVD deaths are more than double the cancer deaths in men and in another 6 countries, male CVD deaths are more than four times greater than cancer deaths.[4]

THE LOCAL SITUATION

Deaths due to CVD contributed towards 40% of all deaths in 2013 and represent the most common cause of death locally. This does not include deaths where the underlying cause of death is diabetes (usually represents between 3-5% of all deaths) where frequently, cardiovascular conditions also contribute to death.

In 2013, deaths due to circulatory diseases represented 42% of deaths in females and 39% of deaths in males, showing a similar, however smaller gender disparity as found in Europe. This gender disparity is mainly due to cerebrovascular diseases and other heart diseases (mainly heart failure), while in deaths due to ischaemic heart disease there was a male predominance.

While CVDs are still the commonest cause of death in Malta, they represented a much higher percentage of deaths in the past, where 60% of deaths in females and 55% of deaths in males were caused by CVD 30 years ago.

Over the past 30 years (figure 1), following an initial decline in the number of deaths due to CVD in both gender, the total number of deaths has remained stable over the past 25 years. The total number of deaths in 2013 was 1298 while the number of deaths in 1989 was 1316. As described previously when considering mortality from any cause one has to take into account the effect of population growth as well as the aging of the population, apart from other epidemiological changes in CVD.

The crude mortality rate which represents the total number of deaths from CVD divided by the total deaths and therefore is taking into consideration the increasing population size is showing a downward trend. However the greatest downward trend in cardiovascular mortality is being seen in the age standardised death rate in females despite the relative stable crude mortality rates from the early 1990s, indicating that people are dying at an older age.

Figure 1: Trends in total mortality, Crude Mortality Rate (CMR) and Standardised Death Rate of Circulatory Diseases over 30 years.[5,6]

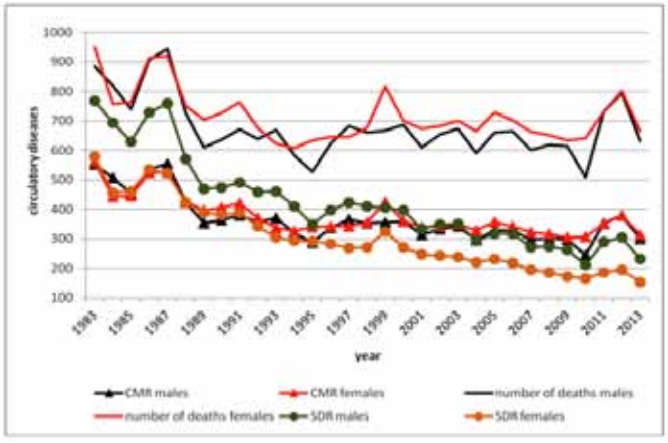
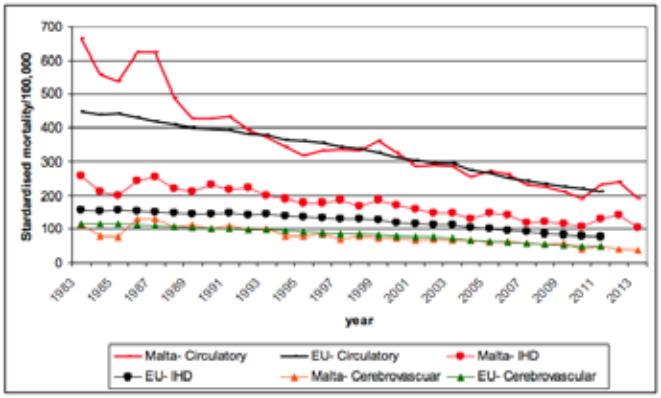


Figure 2: Trends on standardised mortality rate in Malta compared to EU average for all circulatory diseases, ischaemic heart disease and cerebrovascular disease.[5,6]



Rates for CVD mortality for Malta compare well with the EU average for all CVDs as seen in figure 2. Rates for cerebrovascular diseases are also similar to the EU average and have been so for the past 30 years. However rates for ischaemic heart disease are higher in Malta than the EU average, though the gap seems to be decreasing. In those countries where cancer supersedes cardiovascular mortality in males, all have lower mortality rates than Malta for circulatory disease.

DISCUSSION

The natural history of cardiovascular epidemics, including coronary heart disease, varies markedly among countries. Different coronary heart disease patterns are distinguishable including 'rise and fall' (classic epidemic pattern), 'rising' (first part of epidemic) and 'flat' (no epidemic yet).[7] Malta followed the 'rise and fall' epidemic with increasing cardiovascular mortality rates till the late 1970s-early 1980s followed by a fall from the 1980s onwards.

Mortality rates continue to fall in most but not all European countries. Geographic inequalities in cardiovascular mortality continue to exist in Europe with countries like Norway, Denmark, France, Portugal, Spain and the Netherlands having the lowest rates of cardiovascular mortality.[3] Mortality rates generally appear to be most closely linked to a country's stage of epidemiological transition. This refers to the changes in the predominant forms of disease and mortality burdening a population that occur as its economy and health system develops. Underdeveloped countries are still in the early stages of epidemiological transition where infectious disease predominates,[8] whereas at the other end, in countries with late stages of epidemiological transition, cancer mortality is superseding cardiovascular mortality.

Studies examining the causes of the decline in CVD incidence and mortality in developed countries since the mid-1960s suggest that risk-factor reductions and treatment each account for between 40% and 60% of the reduction in CVD mortality, with undetermined causes accounting for an additional reduction of up to 10%.[9,10]

From a policy and intervention perspective, a decreasing mortality trend does not necessarily mean we are seeing less deaths due to circulatory conditions. Locally, due to demographic trends, though mortality rates from CVDs continue to decline, the actual number of deaths has remained stable for a number of years. It is also interesting to note that hospital discharges due to CVDs have increased locally from 665 per 100,000 in 2001 to 1341 per 100,000 in 2010,[5] similar to the majority of European countries. This has obvious policy implications and emphasizes the continued high burden of CVD in European populations despite decreases in age-adjusted mortality rates.[4]

REFERENCES CAN BE ACCESSED ON THESYNAPSE.NET

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▼This medicinal product is subject to additional monitoring. This will allow quick identification of new safety information. Healthcare professionals are asked to report any suspected adverse reactions. See section 4.8 on SPC how to report adverse reactions.

Please refer to the full Summary of Product Characteristics before prescribing

Trade Name: RELVAR ELLIPTA. **Active Ingredients:** 92 micrograms or 184 micrograms of fluticasone furoate and 22 micrograms of vilanterol (as trifenatate). **Pharmaceutical Form:** 92 micrograms/22 micrograms or 184 micrograms/22 micrograms inhalation powder, pre-dispensed. **Indications:** *The 92 micrograms/22 micrograms dose:* for the regular treatment of asthma in adults and adolescents aged 12 years and older where use of a combination medicinal product (long-acting beta$_2$-agonist and inhaled corticosteroid) is appropriate; and for the symptomatic treatment of adults with COPD with a FEV_1<70% predicted normal (post-bronchodilator) with an exacerbation history despite regular bronchodilator therapy. *The 184 micrograms/22 micrograms dose:* for the regular treatment of asthma in adults and adolescents aged 12 years and older where use of a combination medicinal product (long-acting beta$_2$-agonist and inhaled corticosteroid) is appropriate. **Dosage and Method of Administration:** *For Athsma:* One inhalation of Relvar Ellipta 92/22 micrograms or 184/22 micrograms once daily. Patients usually experience an improvement in lung function within 15 minutes of inhaling Relvar Ellipta. However, the patient should be informed that regular daily usage is necessary to maintain control of asthma symptoms and that use should be continued even when asymptomatic. If symptoms arise in the period between doses, an inhaled, short-acting beta$_2$-agonist should be taken for immediate relief. A starting dose of Relvar Ellipta 92/22 micrograms should be considered for adults and adolescents 12 years and over who require a low to mid dose of inhaled corticosteroid in combination with a long-acting beta$_2$-agonist. If patients are inadequately controlled on Relvar Ellipta 92/22 micrograms, the dose can be increased to 184/22 micrograms, which may provide additional improvement in asthma control. *For COPD:* One inhalation of Relvar Ellipta 92/22 micrograms once daily. Relvar Ellipta 184/22 micrograms is not indicated for patients with COPD. Relvar Ellipta is for inhalation use only. It should be administered at the same time of the day, each day. **Contraindications:** *Hypersensitivity* to the active ingredient or excipients. **Precautions for Use:** Fluticasone furoate/vilanterol should not be used to treat acute asthma symptoms, for which a short-acting bronchodilator is required. Caution in severe cardiovascular disease, moderate-to-severe hepatic impairment, pulmonary tuberculosis or in patients with chronic or untreated infections, history of diabetes mellitus and for paradoxical bronchospasm and pneumonia in patients with COPD. **Drug Interactions:** Beta-blockers, CYP3A4 inhibitors, P-glycoprotein inhibitors and sympathomimetic medicinal products (refer to the full Summary of Product Characteristics for list of drugs). **Fertility, Pregnancy and Lactation:** ***Pregnancy:*** No adequate data available. ***Lactation:*** insufficient information available. ***Fertility:*** There is no data in humans. Animal studies indicate no effect on fertility. **Effect on Ability to Drive or Use Machines:** No or negligible influence. **Undesirable Effects:** Very common side effects include headache and nasopharyngitis (refer to the full Summary of Product Characteristics for complete list of undesirable effects). **Overdose:** There is no specific antidote. Treatment of overdose should consist of general supportive measures. **Local Presentations:** Relvar Ellipta 92 micrograms/22 micrograms inhalation powder, pre-dispensed and Relvar Ellipta 184 micrograms/22 micrograms inhalation powder, pre-dispensed. **Legal Category:** POM. **Marketing Authorisation Holder:** Glaxo Group Limited, 980 Great West Road, Brentford, Middlesex TW8 9GS, United Kingdom **Marketing Authorisation Numbers:** EU/1/13/886/001-6 **DATE OF PREPARATION:** December 2013.

In order to ensure that this product information reflects the most up-to-date clinical and post-marketing surveillance data, please always refer to the latest Summary of Product Characteristics (SPC) which is available from GlaxoSmithKline (Malta) Ltd (Tel: +356 21238131).

REPORTING ADVERSE EVENTS (AEs):

Malta & Gibraltar: **If you become aware of any AEs, medication errors and/or use during pregnancy in association with GSK products, please report the event promptly to:** GSK (Malta) Limited, 1, De la Cruz Avenue, Qormi QRM 2458, Malta (Tel: +356 21238131).

Malta: **alternatively, any suspected AEs and medication errors can also be reported via the national Adverse Drug Reactions (ADRs) reporting system:**

Report forms can be downloaded from www.medicinesauthority.gov.mt/adrportal and posted to the Malta Medicines Authority, Post-licensing Directorate, 203, Level 3, Rue D'Argens, Gżira GŻR 1368, MALTA, or sent by email to postlicensing.medicinesauthority@gov.mt

Gibraltar: **alternatively, any suspected AEs and medication errors can also be reported via the UK regulatory authority (MHRA):** https://yellowcard.mhra.gov.uk/

*Patients' current or previous maintenance inhalers: HandiHaler/ DISKUS/ MDI/ HFA (COPD); DISKUS/ MDI/ HFA (asthma).[4]

References: 1. Relvar Ellipta Summary of Product Characteristics. GlaxoSmithKline; 2013. **2.** Bleecker ER *et al.* Fluticasone furoate/vilanterol 100/25mcg compared with fluticasone furoate 100mcg in asthma: a randomized trial. *JACI In Practice* 2013 (in press). **3.** Svedstater H *et al.* Ease of use of a two-strip dry powder inhaler (DPI) to deliver fluticasone furoate/vilanterol (FF/VI) and FF alone in asthma. *ERS.* 2013. **4.** Woepse M *et al.* Qualitative assessment of a two-strip dry powder inhaler (ELLIPTA™) for COPD and asthma. *EAACI.* 2013.

MLT_GIB/RESP/0006/14 Date of preparation: January 2014

Theravance

gsk

PROPER DISPOSAL OF MEDICINES FOR A GREENER FUTURE

TRICIA MICALLEF

MPSA

Currently on campus there are a number of campaigns aiming towards a greener environment, but what is our part in all this as healthcare professionals?

A significant proportion of the Maltese population does not completely consume medications. Of this unused medication, a recent survey carried out by *WasteServ Malta*[1] indicates that a mere 11% are being disposed of properly. It is thought that this is due to lack of awareness of disposal options.

It is important that proper disposal occurs as this prevents poisoning of children and pets, deters misuse by teenagers and adults and keeps our environment safer in that aquatic animals will not be harmed by medicinals flushed into the sewage, amongst other reasons.

SO WHAT ARE THE AVAILABLE DISPOSAL METHODS?

Ideally, the medication should be returned to a GP or pharmacist, who would then proceed to collect and transport them to *WasteServ Malta* who would then dispose of them in a way that safeguards patient confidentiality. Larger health care facilities may make use of a number of companies which provide a collection and transport service to designated disposal facilities, i.e. *WasteServ Malta* Amenity Sites, in the appropriate waste and hazardous waste containers. Waste deposited in hazardous waste containers are treated by *WasteServ Malta* in a safe manner in compliance with local and foreign legislation.

As for those patients who dispose of medicines from a hous›old, the United States Environmental Protection Agency (EPA) gives the following guidelines for safe disposal. One must first remove the medicines from their original container and mix the medicine with an undesirable substance such as cat litter. The mixture should then be placed into a sealable bag or a disposable container. Personal information should be concealed by means of a permanent marker, after which it is then safe to discard of the mixture with hous›old waste.

It is important to note, however, that there are certain controlled substances that are especially harmful if ingested accidentally and so should not be thrown into hous›old waste as this would provide an opportunity for a child or pet to accidentally take the medicine.

REFERENCES CAN BE ACCESSED ON THESYNAPSE.NET

EXPERIENCES IN THE MMSA

RAMBLINGS OF A 3RD YEAR MEDICAL STUDENT & CLASS REPRESENTATIVE

SAHRA HAJI

MMSA
Malta Medical Students' Association
www.mmsa.org.mt

I cannot exactly pinpoint my first experience with MMSA. However, I still have the memories and the hundreds of photos that I gathered over the past 3 years from being an active member. In my first year at the UOM, I was so enthusiastic, energetic and so engrossed in medicine that I tried to attend anything and everything that was on offer. When you're a student living on a limited budget and away from parents in a foreign country, events like these also offer lots of food that helps to keep you alive. There are so many events and activities organised by the MMSA every year that there is something for all medical students; everyone is given a chance to take an active part in this hard-working student organisation. In reminiscence, we were warmly welcomed on the first day of university by the MMSA executive committee who introduced us to the world and values of MMSA. They encouraged us to attend the Training Resources and Development Wefiend – a wild action-packed event full of medical training sessions, including suturing and bandaging and evening costume parties; it also provided an opportunity to socialise with everyone outside of the university and hospital environment.

In first year, I also participated in World Diabetes Day. For this, I had to train how to measure the blood pressure, BMI and blood glucose levels. At the event, I applied the training on the general public going about their daily business in Valletta. I also attended the National Peer Education Training Wefiend to enhance my presentation skills for peer education sessions in Maltese schools. The aim was to raise awareness regarding important medical and social issues such as stroke management, smoking, alcohol, drugs, sexual education, discrimination and human rights. More recently, I have written a number of medical articles for the *Times of Malta* so I can say that now I am a legitimate journalist. I also represented MMSA on the *Waves* – a video and audio podcast, in association with the Synapse, discussing various medical topics. During this podcat, information on upcoming MMSA events was also given. It may be accessed on soundcloud.com/mmsa-2.

Overall, it has given me great satisfaction to make a valuable contribution to the society that has welcomed me with open arms and given me the privilege to study medicine in Malta. Can't wait to see what the future holds...

CryoPen,
Removing skin lesions in a few seconds.

Impressive results in the removal of warts and skin lesions. Safe, effective and easy to work with and comfortable for the patient.

NEW CryoPen|c

CryoPen|c

- very economical 8g gas cartridges
- dosage with pinpoint precision
- standard set with 1 micro-applicator
- reassuring design for young patients

The CryoPen|c is accurate to the millimeter so that the disavantage of collateral tissue damage resulting in blisters and pain is minimized. CryoPen|c allows better penetration to avoid repeated treatments for the patient. It is very suitable for the use on children. CryoPen|c was designed to optimize treatment of warts, keratosis, fibroma, condyloma, lentigo, ...

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- comes with 3 micro-applicators
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The innovative concept of CryoPen|x allows you to work with pinpoint precision and with minimal discomfort for the patient. No follow-up care and short recovery period. So easy to work with, you activate your CryoPen|x by simply touching the switch.

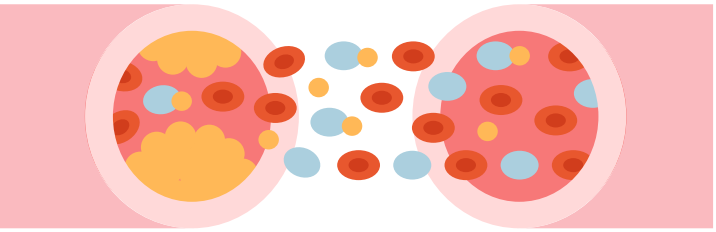
NEW CryoPen|x

CryoPen®

Applications
1-3mm

Applications
2-5mm

Applications
4-8mm



THE CHOLESTEROL CONTROVERSY – PART II

Saturated fats, which are solid at room temperature, such as butter, lard and suet, had been regularly used for centuries for frying and to make many foods, including pastries and biscuits. When saturated fat became scientifically unacceptable, due to the claimed association with blood lipids and atherosclerosis, the food industry had to find a palatable substitute.

The substitute was margarine, a totally artificial fat made by chemically altering the polyunsaturated fatty acids of vegetable oils, making them solid at room temperature. The margarine manufacturing process also changes the chemical structure of the polyunsaturated fatty acids into so-called trans fatty acids (trans fats). The partial hydrogenation manufacturing process, which turns a vegetable oil into "vegetable cream", also produces trans fats.

There were doubts about the possible health consequences of trans fats from the very beginning,[1] but the food industry effectively countered any research claims that alerted consumers on the risks of trans fats. However, Dutch research published in 1990 signalled the beginning of the end for trans fats by showing that a diet rich in trans fats not only raised blood LDL but also lowered HDL cholesterol.[2]

In 2003, the Food and Drug Administration called for trans fats to be included in food labels and eventually banned them in 2014. At the time when FDA issued its ruling, about 43,000 foods in the US alone, contained trans fats. Because the idea that saturated fat is bad is so deeply ingrained in medical and popular belief, the food industry has found it impossible to go back to it, and have therefore had to find a suitably palatable substitute. Food manufacturing science has come up with so-called interesterified fats, which may eventually prove just as bad as trans fats. Furthermore, heating these chemically unstable polyunsaturated vegetable oils might produce toxic substances in fried foods. Some wonder whether atherosclerosis might be more linked with such substances in adulterated oils than any other dietary element. It all sounds like one mass uncontrolled dietary experiment after another.

The saturated fat-heart disease hypothesis has also meant that around the world diets have come to include much more carbohydrate, including sugar and high fructose corn syrup. The latter is very cheap, extremely sweet and has been described as a "calorie source but not a nutrient",[3] and there is current controversy whether or not it increases the risk of metabolic syndrome development. There is increasing scientific suspicion that the overabundance of refined carbohydrates is driving the global pandemic of obesity, diabetes and non-communicable diseases.[4,5]

The idea that we gain weight simply because "energy in exceeds energy out" is being disputed and replaced by the hypothesis that carbohydrates trigger an insulin hormonal response that drives energy consumed to storage as adipose tissue. This hypothesis suggests that poor people tend to be fat not because they overeat or are lazy, but because they consume the cheapest energy source (refined carbohydrates).[6]

The diet advocated by US cardiologist Robert Atkins, drastically restricting carbohydrates but allowing any amount of protein and fat, was a rediscovery of the diet promoted by a London undertaker, William Banting, in his best-selling *Letter on Corpulence* (1864). Banting described how, in his early 50s, obese and in poor health, he had consulted London surgeon William Harvey who advised him to eat meats and not carbohydrates. Harvey's advice was based on French medical claims that such a diet was good treatment for diabetes, and Harvey had noted that farmers fattened their livestock before market by feeding them refined carbohydrates. Banting describes how he lost a lot of weight on such a diet and his health improved, dying in his late 80s. His *Letter on Corpulence* was widely recommended by medical authorities until the 1950s.[7]

This diet was recently tested in the A TO Z Weight Loss Study in 311 overweight or obese premenopausal women over a year against three other diets, including that advocated by Dean Ornish, another US cardiologist, which requires that fewer than 10% of energy comes from saturated fat. **Women on the Atkins (high protein and fat / low carbohydrate) diet lost more weight and experienced more favourable metabolic effects, including a fall in diastolic blood pressure of 4.4mm Hg against 2.1mm Hg for those on the Ornish diet (very low saturated fat).[8]**

The scientific search for the dietary basis of obesity and cardiovascular disease have therefore more recently been moving away from saturated fat and honing in on sugars and refined carbohydrates. Furthermore, the health consequences of unstable polyunsaturated fatty acids in vegetable oils adulterated during commercial food preparation or by home cooking (heating and frying), is now under some suspicion.

The successful attempt to reduce saturated fat in the diet of Americans and others around the world has been an uncontrolled experiment which, as with all experiments, may have led to bad outcomes and, unfortunately, more uncontrolled global nutritional experiments are continuing. Weak science, strong personalities, vested interests and political expediency have initiated these experiments.

REFERENCES CAN BE ACCESSED ON THESYNAPSE.NET

A LIFE DEDICATED TO PHARMACY

THE SYNAPSE MEETS MARY ANN SANT FOURNIER PRESENTLY PRESIDENT OF THE MALTA CHAMBER OF PHARMACISTS, AND VISITING SENIOR LECTURER AT THE FACULTY OF MEDICINE & SURGERY, UOM.

"I was born in a family where my late father, Ferdinand Felice, was a pharmacist and scientist. We experienced an atmosphere imbued with the presence of science, culture, a love of knowledge and ethical practice. This was also a path my late mother Olga, encouraged us to follow on, being very intelligent and well-read herself. My older brothers are a molecular geneticist and a consultant obstetrician and gynaecologist and my younger brother is an architect.

My late husband, Charles, was always very proud and supportive of my work in the Chamber and our daughter Vera (of whose two daughters, I am a doting grandmother) today still is.

As a child I remember wanting to become a doctor, but later on explored the option of becoming a pharmacist, also inspired by my father's work in his pharmacy in Sliema. I could sense even then, that at the basis of it all there is a vocation. I have always been also fascinated by the discovery, design and development of drugs, which is a subject I have studied, developed and continue to teach to Pharmacy undergraduates.

Mary Ann with her daughter Vera, interior designer

I was one of the B Pharm class of '73. Eventually I became the 1st pharmacist to take an MPhil in Pharmacy (Biochemical Pharmacology) in the UOM in 1977. More recently, I have taken the opportunity to read a PhD in the pharmacogenomics of treatment with oral hypoglycaemic agents in Type 2 Diabetes Mellitus at the Laboratory of Medical Genetics, UOM. My first employment within the Pharmacy profession, apart from practising in the family pharmacy, was in pharmaceutical marketing with a British company and subsequently with American and Danish Pharma companies.

The Chamber of Pharmacists is one of the oldest professional associations, if not the oldest of its kind in Malta. It was established in 1900 making it 115 years old this year. It was originally set up by a group of community pharmacists. Today our work touches several other facets of the profession.

I have been involved for many years, first on the editorial board of the Chamber's then printed journal 'The Pharmacist', then as honorary Treasurer and afterwards being elected president in 1987. I still believe that our work is incredibly valid, otherwise I would not be so involved together with my team of Council members. Through the years, I have seen a constant presence of dedicated people who do their best to uphold their profession. We are an association and a union, we have a very strong team of Council members and are helped from time to time by other colleagues, for example, on working committees.

I am humbled by the show of continuing support, trust and respect demonstrated by pharmacists in the outgoing council, at the AGM and elections, last December. I must stress that our present Council is a very strong and committed team with valuable members whose participation is extremely important. Any member of the Chamber can get elected to the Council if he/she gets enough votes and is a Council member in his/her own personal capacity. Its work is uniquely to uphold the profession and ensure best practice. We work towards unity, not division.

The Chamber being a voluntary organization, there could be times when outreach is not always effective in a 360 degree manner though our mission is to reach all sectors of the profession. Some issues take time to resolve, others are long-standing and require much lobbying. It is not possible to reach everybody simultaneously. Then again, people must

Mary Ann (second from right) representing the Chamber in the delegation of the National Council, CMTU to the new Speaker of the House of Representative at the Palace, Valletta

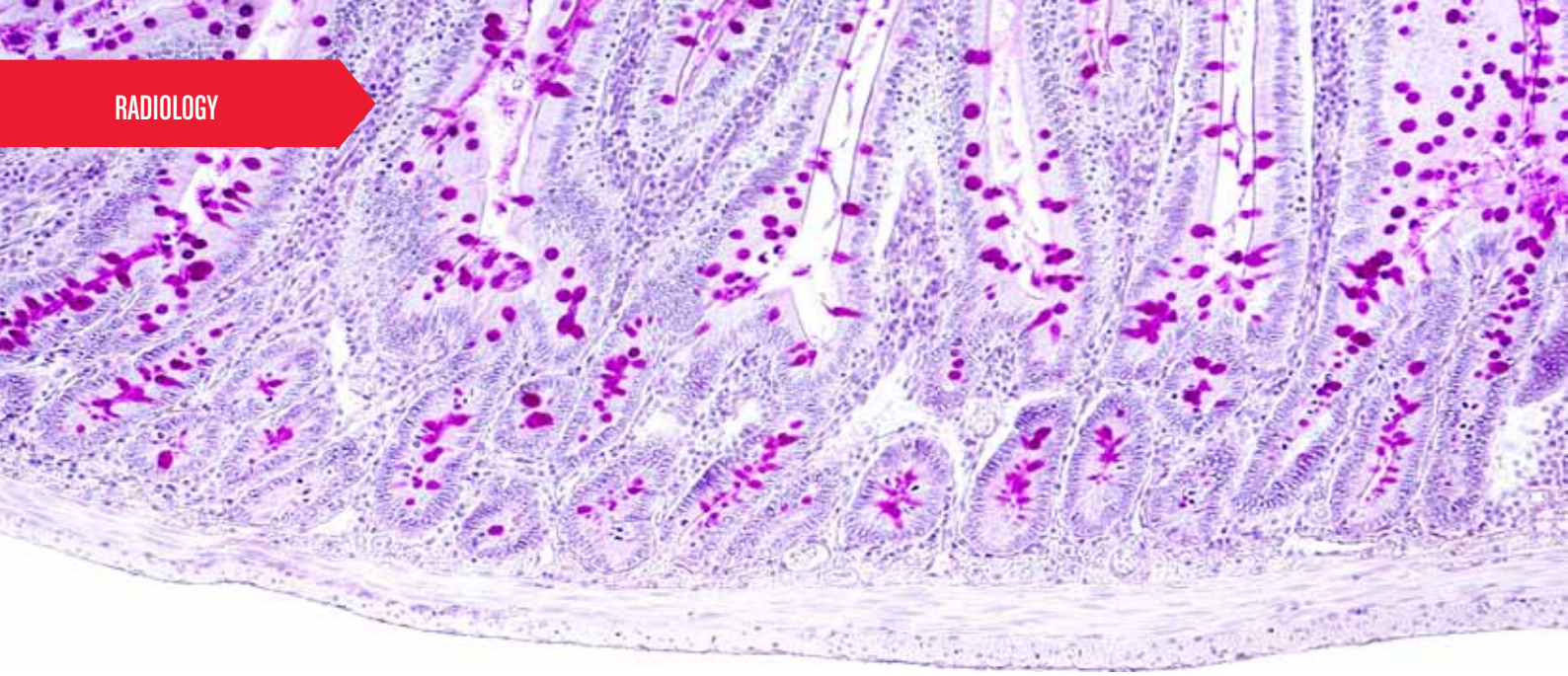
realise that we have a limited structure with very limited funds, unlike similar organisations abroad which have higher financial income and support. Nonetheless, with goodwill and hard work, since 1987 our efforts have contributed effectively to the development of Pharmacy legislation including the Medicines Act, Pharmacy education, and better pharmacist representation on the Pharmacy Council. In the early '90s we worked with Pharmaceutical European groups well ahead of Malta's accession to the EU. The Chamber negotiated with Government and

Mary Ann (centre, back) with pharmacy students from MPSA and Council member Mary Anne Ciappara, at the Science in The City 2014

I READ THE SYNAPSE BECAUSE...

"IT IS INTERESTING, ON THE DOT, COVERS LOCAL AND INTERNATIONAL ISSUES. I ESPECIALLY ENJOY THE VERY ECLECTIC EDITORIALS. IT IS ONE WAY OF KEEPING ABREAST WITH DEVELOPMENTS, WITH SOME ARTICLES BEING MORE INTERESTING THAN OTHERS. IT IS POSITIVE TO SEE THAT IT SUPPORTS THE HEALTHCARE PROFESSIONS IN SO MANY WAYS, EVEN VIA THE ONLINE VERSION & THE REGULAR EMAIL SHOTS SENT OUT."

saw the implementation of the first classification and career development agreement for pharmacists in Government service. We have worked hard on the implementation of the landmark national POYC system. Thanks to our work towards an effective POYC system, we have seen an increase in human resources in community pharmacies and new opportunities at the POYC department. More recently too, we are working with other stak›olders on the implementation of the Falsified Medicines EU directive and on the lessening of bureaucracy and simplification of regulation which would affect pharmacists in industry, responsible and community pharmacists."



PIERRE VASSALLO

LARGE INTESTINAL (COLORECTAL) CANCER SCREENING

The large intestine is composed of the colon and rectum and is the third most common site of cancer in the body. Colorectal cancer affects both males and females equally and is the second most common cause of death from cancer.

Screening for colorectal cancer can reduce deaths from this condition significantly.[1] The aim of screening is to detect pre-cancerous/cancer-prone lesions before they become malignant. Screening methods include Faecal Occult Blood Testing (FOBT), Double Contrast Barium Enema (DCBE), Computed Tomographic Colonography (CTC) and Colonoscopy.

FOBT looks for blood in the stool, but it has been shown to be unreliable as it misses non-bleeding cancers (false negatives) and is unable to distinguish cancer from other (non-cancerous) causes of intestinal bleeding (false positive).[2]

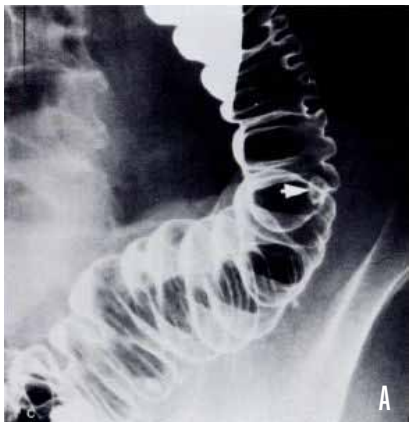
DCBE is an X-ray examination that involves coating the large bowel with barium sulphate-based contrast material and distending it with air followed by a series of X-ray images to view different portions of the colon and rectum (figure 1). DCBE has been used for many years and is a reliable tool for detecting colorectal cancer, however it has largely been replaced by CTC. CTC offers numerous advantages, namely, 3D viewing of the colon, detection of disease within the colonic lumen, as well as in the colonic wall and beyond , while also viewing potential sites of cancer spread (metastasis) particularly the liver and lymph nodes. DCBE is also of limited value in those patients in whom bowel preparation measures fail to attain adequate bowel cleansing.

FOBT LOOKS FOR BLOOD IN THE STOOL, BUT IT HAS BEEN SHOWN TO BE UNRELIABLE...

CTC uses the advantages of Computed Tomography to deliver high resolution 3D and cross-sectional images of the large bowel, while allowing analysis of all other abdominal and pelvic organs. Prior to the examination, bowel cleansing measures are taken in order to improve visibility of abnormalities in the bowel wall. Bowel preparation usually lasts 2 days, in which laxatives and adequate hydration are prescribed using a standard protocol. Just prior to the CT examination, a short rectal tube is inserted and the colon is insufflated with air or carbon dioxide (CO_2); CO_2 is preferred as it is more rapidly absorbed and results in less discomfort due to bowel distention. Adequate bowel distention is confirmed through a prior scout image of the abdomen. Subsequently prone and supine CT scans using a multi-detector CT scanner (usually 64-slice scanners are used) are performed using a thin section technique with slices measuring 0.6mm or less in thickness. The supine scan is performed with intravenous contrast material injection. Electronic cleansing techniques have been developed that increase patient comfort and compliance by replacing pre-examination bowel preparation regimens; this is achieved by administering oral contrast material prior to the exam to label the faecal contents of the bowel, which can be subsequently electronically subtracted from the CT images.

CTC exams are reviewed in 3D endoscopic mode (https://youtu.be/8MiufJNDrU8) and in multi-planar cross-sectional mode. The 3D endoscopic mode allows visualisation of that portion of any abnormality that protrudes into the bowel, while the cross-sectional mode detects extension of disease through and beyond the bowel wall. CTC can visualise polyps and measure polyp size (figure 2). The extent of bowel wall penetration and local (figure 3) as well as distant metastatic disease (figure 4) can also be assessed.

ELECTRONIC CLEANSING TECHNIQUES HAVE BEEN DEVELOPED THAT INCREASE PATIENT COMFORT AND COMPLIANCE BY REPLACING PRE-EXAMINATION BOWEL PREPARATION REGIMENS...



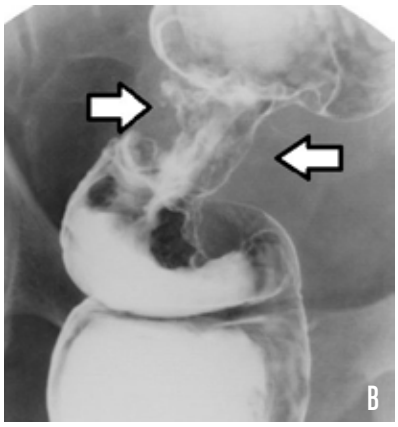


Figure 1: DCBE showing in (A) a small polyp (arrow) in the descending colon and in (1B) concentric narrowing of the rectum (called an apple-core lesion) (arrows).

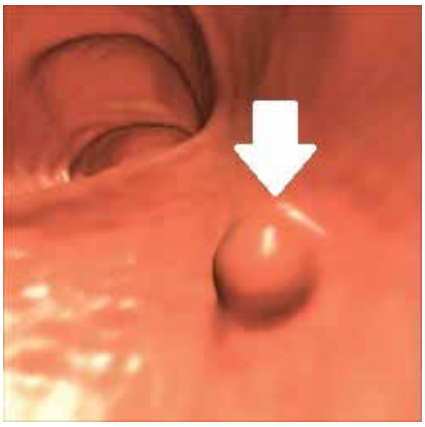


Figure 2: CTC 3D endoscopic view shows a sessile polyp (arrow).

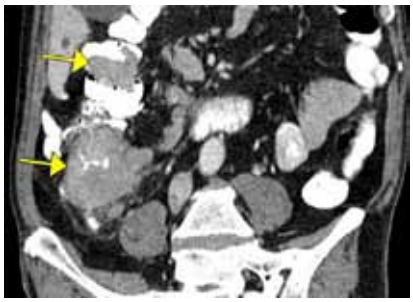


Figure 3: Coronal cross-sectional CTC image shows two lesions (yellow arrows) in the ascending colon with the lower one showing extension through the bowel wall.

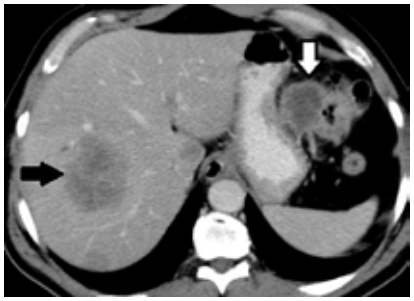


Figure 4: Axial cross-sectional CTC image shows a primary lesion in the transverse colon (white arrow) and a metastatic lesion in the liver (black arrow).

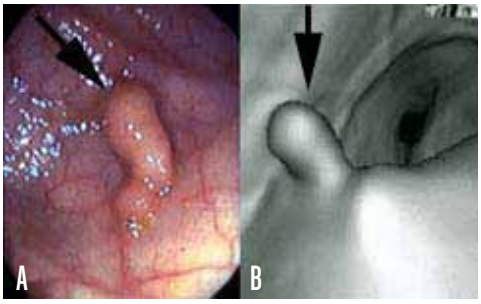


Figure 5: Comparison of images on Colonoscopy (A) and CTC 3D endoscopic view (B) showing the same colonic lesion.

Colonoscopy is a procedure that allows visualisation of the inner lining of your large intestine. This is done by inserting a flexible colonoscope through the anus to look at the colon (figure 5). The procedure is performed in an operating theatre and usually requires light general anaesthesia. Sometimes colonoscopy is performed under sedation, however this is frequently not well tolerated by the patient. Prior meticulous bowel cleansing is required. Long and tortuous large intestines, which are often present in the elderly population, may prevent the examiner from viewing the more proximal portions of the colon; in this case, one would need to resort to performing a CTC. A colonoscopy allows direct visualisation of ulcers, colon polyps, tumours, and areas of inflammation or bleeding. During a colonoscopy, biopsies can be collected and abnormal growths can be taken out.

CTC has rates of polyp detection comparable to those of colonoscopy, and its use in favour of colonoscopy improves overall compliance of patients who should have regular colorectal cancer screening. It is minimally invasive, requires no sedation/anaesthesia, has the potential for reducing the number of incomplete examinations (inability to reach the proximal colon), and has faster patient throughput.[2,3]

The aim of any colorectal cancer screening test is to detect an advanced adenoma, which is pathologically defined as a lesion that is 10 mm or larger, has villous features, or has high-grade cellular dysplasia. Lesions smaller than 6 mm are often hyperplastic with no malignant potential. Adenomatous polyps that are 5 mm or smaller have a slow growth rate and a low incidence of dysplasia, and both CTC and colonoscopy have low sensitivity for depicting them. A reporting protocol for CTC known as the *CT colonography-Reporting and Data System (C-RADS)* recommends that these lesions should not be reported in view of the fact that the risk for malignancy in adenomatous polyps that are 5 mm or smaller is estimated to be much less than 1%.[4] C-RADS recommends short-term surveillance for patients with one or two 6–9-mm polyps and no additional risk factors, although there is continued debate and research relating to the appropriate polyp size and number to determine whether to either opt for colonoscopy and biopsy or for a surveillance strategy.

The aim of colorectal cancer screening is to detect precancerous polyps and to remove them before they turn into cancer. Screening also helps to find colon cancer at an early stage, when treatment often leads to a cure. The incidence of colorectal cancer rises after 50 years of age. So after turning 50 or if experiencing abnormal bowel symptoms (such as an altered bowel habit or blood in the stools), one should get screened without delay. Colon cancer screening saves lives.

REFERENCES CAN BE ACCESSED ON THESYNAPSE.NET

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Fenofibrate/Simvastatin

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- Proven to improve TG and HDL-C levels in high-risk patients as compared to simvastatin alone
- Combination therapy with a long-term safety profile

CHOLIB 145 mg/20 mg and 145 mg/40 mg FILM-COATED TABLETS: PRESCRIBING INFORMATION
Refer to the Summary of Product Characteristics for full information Presentation: Cholib 145 mg/20 mg film-coated tablets containing 145 mg of fenofibrate and 20 mg of simvastatin. Cholib 145 mg/40 mg film-coated tablets containing 145 mg of fenofibrate and 40 mg of simvastatin. **Indications:** Cholib is indicated as adjunctive therapy to diet and exercise in high cardiovascular risk adult patients with mixed dyslipidaemia to reduce triglycerides and increase HDL-C levels when LDL-C levels are adequately controlled with the corresponding dose of simvastatin monotherapy. **Dosage and Administration:** Secondary causes of hyperlipidaemia should be adequately treated before Cholib is considered and patients should be placed on a cholesterol and triglycerides-lowering diet which should be continued during treatment. The recommended dose is one tablet per day and should be taken whole with water. **Contraindications, Warnings, Precautions etc:** *Contraindications:* Hypersensitivity to the active substance, excipients, peanuts or soya, known photoallergy or phototoxic reaction with fibrates or ketoprofen, active liver disease or unexplained persistent elevations of serum transaminases, known gall bladder disease, chronic or acute pancreatitis with the exception of acute pancreatitis due to severe hypertriglyceriaemia, moderate to severe renal insufficiency, concomitant administration of fibrates, statins, danazol, ciclosporin, potent cytochrome P450 (CYP) 3A4 inhibitors, fusidic acid, grapefruit juice, paediatric population (below 18 years), pregnancy or breastfeeding, history of myopathy and/or rhabdomyolysis with statins and/or fibrates or confirmed creatine phosphokinase elevation under previous statin treatment. Amiodarone, verapamil, amlodipine or diltiazem is contraindicated with Cholib 145 mg/40 mg only. *Warnings and precautions:* Muscle – skeletal muscle toxicity, including rare cases of rhabdomyolysis with or without renal failure has been reported and reduced function of OATP transport proteins can increase this risk. There have been very rare reports of an immune-mediated necrotizing myopathy (IMNM) during or after treatment. Patients should be advised of the risk and told to report any unexplained muscle pain, tenderness or weakness. Caution should be exercised in patients with pre-disposing factors: elderly (> 65 years, females, renal impairment, uncontrolled hypothyroidism, hypoalbuminaemia, personal or familial history of hereditary muscular disorders, previous toxicity with a statin or a fibrate, alcohol abuse). If myopathy is suspected for any other reason, treatment should be discontinued. Therapy should be temporarily stopped prior to major surgery. Hepatic disorders - Transaminase levels should be monitored and therapy discontinued if necessary, therapy should be discontinued if hepatitis is confirmed, and used with caution in patients who consume substantial quantities of alcohol. Pancreatitis – may represent a failure of efficacy in patients with severe hypertriglyceridaemia, induced pancreatic enzyme increase or obstruction of the bile duct. Renal – use with caution in patients with mild renal insufficiency, treatment should be interrupted when creatine level is 50% above the upper limit of normal. Interstitial lung disease – cases have been reported with some statins and fenofibrate, therapy should be discontinued if suspected. Diabetes mellitus - statins may increase blood glucose and at-risk patients should be monitored. Veno-thromboembolic events – caution in patients with history of pulmonary embolism. Excipients – Cholib contains lactose and sucrose, patients with rare hereditary problems of galactose and/or fructose intolerance, Lapp lactase deficiency, glucose-galactose malabsorption or sucrose-isomaltase insufficiency should not take this medicine. Patients allergic to sunset yellow FCF (E110) should not take this medicine (applicable to Cholib 145 mg/20 mg). *Drug interactions:* Cholib is contraindicated with the following – itraconazole, ketoconazole, fluconazole, posaconazole , erythromycin , clarithromycin , telithromycin , HIV protease inhibitors (e.g. nelfinavir), nefazodone, danazol, ciclosporin, gemfibrozil, other statins and other fibrates. Patients should avoid grapefruit juice and should be closely monitored if taking niacin, colchicine, Vitamin K antagonists (INR monitoring) or glitizones. Taking rifampicin may decrease the efficacy of Cholib. Patients taking amiodarone, verapamil, diltiazem, amlodipine should not exceed 145 mg/20 mg per day. **Fertility, Pregnancy and Lactation:** Should not be used during pregnancy or breastfeeding. No fertility data available. **Ability to Drive and Operate Machinery:** Dizziness has been reported as a rare side-effect. **Side Effects:** *Side effects observed with co-administration of fenofibrate and simvastatin:* Very common - blood creatinine increased. Common - upper respiratory tract infection, gastroenteritis, platelet count increased, alanine-aminotransferase increased. Uncommon - dermatitis and eczema. *Side effects observed with the use of fenofibrate:* Very common – blood homocysteine level increased. Common – gastrointestinal signs and symptoms (abdominal pain, nausea, vomiting, diarrhoea, flatulence) and transaminases increased. Uncommon – headache, thromboembolism (pulmonary embolism, deep vein thrombosis), pancreatitis, cholelithiasis, cutaneous hypersensitivity (e.g. rash, pruritus, urticaria), muscle disorders (e.g. myalgia, myositis, muscular spasms and weakness) and sexual dysfunction. Rare – haemoglobin decreased, white blood cell count decreased, hypersensitivity, alopecia, photosensitivity reactions, rhabdomyolysis with or without renal failure and blood urea increased. Frequency not known – complications of cholelithiasis (e.g. cholecystitis, cholangitis, biliary colic etc) and severe cutaneous reactions (e.g erythema multiforme, Stevens-Johnson syndrome, toxic epidermal necrolysis etc.). *Side effects observed with the use of simvastatin:* Rare – anaemia, paresthesia, dizziness, peripheral neuropathy, memory impairment/memory loss, constipation, dyspepsia, gamma-glutamyltransferase increase, hypersensitivity syndrome, myopathy, asthenia, blood alkaline phosphatase increased and blood creatine phosphokinase level increase. Very rare – insomnia, hepatitis/jaundice and hepatic failure. Frequency not known – Diabetes Mellitus, sleep disorder including nightmares, depression, interstitial lung disease, tendinopathy, immune-mediated necrotizing myopathy, erectile dysfunction, glycosylated haemoglobin increased and blood glucose increased.
Name and Address of Marketing Authorisation Holder: BGP Products Ltd., Abbott House, Vanwall Business Park, Vanwall Road, Maidenhead SL6 4XE, UK PL No: 145 mg/20 mg: EU/1/13/866/001, EU/1/13/866/002, EU/1/13/866/005. 145 mg/ 40mg: EU/1/13/866/003, EU/1/13/866/004, EU/1/13/866/006 **Legal Category:** POM

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