Issue 01/10

TheSynapse

The Medical Professionals Network

Exclusive

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Ethics Consultation Document

Fresh new look!

NEW!

INTRODUCING THE FIRST SINGLE-PILL COMBINATION WITH RASILEZ®

THROUGH DIRECT RENIN INHIBITION

DRIVE POWER THAT LASTS

NEW
RasilezHCT®
aliskiren/hydrochlorothiazide

DRI POWER THAT LASTS

RASILEZ HCT®: THE BENEFITS OF RASILEZ® WITH EVEN GREATER BP EFFICACY[1,2]

ILEZ HCT®
sentation: Film coated tablets containing 300 mg aliskiren (a renin inhibitor) and 12.5 mg hydrochlorothiazide (a thiazide diuretic), or 300 mg aliskiren and 25 mg hydrochlorothiazide. **Indications:** Treatment of essential hypertension. Indicated in patients whose blood ssure is not adequately controlled as on aliskiren or hydrochlorthiazide used alone. Indicated as substitution therapy in patients adequately controlled with aliskiren and hydrochlorothiazide, given concurrently, at the same dose levels as in the combination. **Dosage:** One et of Rasilez HCT 300/12.5 mg or 300/25 mg daily. **Contraindications:** ♦ known hypersensitivity to the components of this product or to sulfonamides ♦ history of angioedema with aliskiren ♦ pregnancy and breast-feeding ♦ severe hepatic impairment ♦ severe renal airment (creatinine clearance < 30 mL/min) ♦ refractory hypokalaemia ♦ hypercalcaemia ♦ concomitant use with ciclosporin and other potent P-gp inhibitors **Warnings/Precautions:** ♦ Avoid use in women planning to become pregnant ♦ Caution in patients with heart failure /mptomatic hypotension in sodium- and/or volume-depleted patients which should be corrected prior to initiation of therapy. ♦ Treatment should be discontinued if angioedema occurs and appropriate therapy and monitoring provided until resolution of signs and symptoms. aution is advised when administering Rasilez HCT to patients with renal artery stenosis, renal and liver impairment, renovascular hypertension or systemic lupus erythematosus. ♦ Disturbance of serum electrolyte balance including hypokalaemia, hypochloraemic alkalosis, onatraemia and hypercalcaemia (monitoring recommended), glucose tolerance and serum levels of cholesterol, triglycerides and uric acid. ♦ Use with caution in patients with aortic and mitral valve stenosis. ♦ Caution with moderate P-gp inhibitors such as ketoconazole. ♦ ition with concomittant potassium-sparing diuretics, potassium supplements or potassium-containing salts. ♦ Stop treatment in the event of severe and persitent diarrhea. ♦ Caution in excessive reduction of blood pressure in patients with ischaemic cardiopathy of ischaemic liovascular disease.♦ Caution in driving or operating machinery. ♦ Caution with patients with history of allergy and asthma. ♦ Not recommended in patients below 18 years of age. ♦ Excipients: Contains lactose and wheat starch. Interactions: ♦ Monitoring when used comitantly with furosemide, lithium, products affected by serum potassium disturbances (eg digitalis glycosides, antiarrhythmics), calcium supplements or calcium sparing medicinal products ♦ Possible interaction with digoxin, irbesartan, St. John's wort, and rifampicin ♦ als with high fat content substantially reduce absorption. ♦ Caution when used concomitantly with drugs that may increase potassium levels (eg potassium supplements, heparin sodium) and drugs that decrease potassium levels (eg corticosteroids, ACTH, amphotericin, enoxolone, penicillin G, laxatives, salicylic acid derivatives, other kaliuretic diuretics), ♦ Caution if combined with other antihypertensives, curare derivatives, NSAIDs (especially in the elderly), digoxin, antidiabetic agents, allopurinol, amantadine, diazoxide, cytotoxic drugs, cholergenic agents, cholestyramine and colestipol resins, vitamin D, calcium salts, pressor amines, antigout medicine, and ciclosporin. ♦ Caution should be excercised on concomintant use with ketoconazole or other moderate P-gp inhibitors (ketoconazole, itraconazole, ithromycin, erythromycin, amiodarone, telithromycin). ♦ Grapefruit juice ♦ Alcohol **Adverse reactions:** Common: Diarrhoea **For the aliskiren component, other reported adverse reactions include:** Uncommon: Rash. Rare: Angioedema. Laboratory values: decrease in moglobin and haematocrit, increase in serum potassium. **For the hydrochlorothiazide component,** other reported adverse reactions include: Aplastic anaemia, bone marrow depression, neutropenia/agranulocytosis, haemolytic anaemia, leucopenia, thrombocytopenia, ression, sleep disturbances, restlessness, light-headedness, vertigo, paraesthesia, dizziness, transient blurred vision, xanthopsia, cardiac arrhythmias, postural hypotension, respiratory distress (including pneumonitis and pulmonary oedema), pancreatitis, anorexia, rhoea, constipation, gastric irritation, sialadenitis, loss of appetite, jaundice (intrahepatic cholestatic jaundice), anaphylactic reactions, toxic epidermal necrolysis, necrotising angiitis, (vasculitis, cutaneous vasculitis), cutaneous lupus erythematosus-like, reactions, reactivation utaneous lupus erythematosus, photosensitivity reactions, rash, urticaria, weakness, muscle spasm, interstitial nephritis, renal dysfunction, fever. Laboratory values: electrolyte imbalance, including hypokalaemia and hyponatraemia, hyperuricaemia, glycosuria, erglycaemia, increases in cholesterol and triglycerides **Legal Category:** POM **Pack sizes:** 7, 28 film-coated tablets **Marketing Authorisation Holder:** Novartis Europharm Limited, Wimblehurst Road, Horsham, West Sussex, RH12 5AB, United Kingdom. **Marketing horisation Numbers:** Rasilez HCT 300/12.5 mg - EU/1/08/491/041-060. Rasilez HCT 300/25 mg - EU/1/08/491/061/080 Please refer to Summary of Product Characteristics (SmPC) before prescribing. Full prescribing information is available on request from Novartis irma, P.O. Box 124, Valletta, VLT 1000, Malta. Tel +356 22983217. (vsn 2009-MT- RASHCT April 2009)

References : **1.** Palatini P, Jung W, Shlyakhto E, et al. *J Hum Hypertens* 2010; 24:93-103; published online 21 May 2009 **2.** Villamil A, Chrysant SG, Calhoun D, et al. *J Hypertens*. 2007; 25:217-226.

NOVARTIS

RAS Ad1 02/10 MT

'O wondor.

How many goodly creatures are there here! How beauteous mankind is! O brave new world! That has such people in't!'

This is how I wish to start the first editorial for this decade ... Miranda'a speech in Shakespeare's *The Tempest*, quoted ad verbatim by John the Savage in Aldous Huxley's *Brave New World*. Both characters are naive to the reality behind a vision, a vision which they did not know or understand. And indeed we are experiencing a Brave New World! We are seeing the world's population being vaccinated against a virus which has reportedly already mutated. This herd immunity may be spurred by reports, even locally, that presumably healthy people are dying because of this flu. On the other hand the WHO has also acknowledged that the actual number of persons worldwide who have contracted H1N1 virus is likely to be ten times what has been confirmed. So in reality the effects of the virus may also be very mild. And amidst all this we are also watching countries such as France, Germany, Netherlands and the UK selling extra H1N1 vaccines to developing countries such as Egypt and Qatar. Times are indeed changing ... in the past few years we have seen cocaine vaccines, cervical cancer vaccines, and today we are being vaccinated against a disease whose actual epidemiological prevalence, up to a couple of years ago was considered by many to be an extrapolation from a science fiction film ... indeed as Almroth Wright, a prime promoter of immunological procedures once said, 'The physician of tomorrow will be the immunisator'.

The decade which 2010 heralds will also be exciting for other reasons. Locally, John Dalli, Malta's Commissioner, has been assigned the health and consumer policy portfolio by the European Commission. For the first time, this will encompass pharmaceutical and medical devices policy. The effects will obviously ripple between the corridors of parliament since another MP (or MPs) has to take up his post. This decade we will also be experiencing the debates arising from the Assisted Procreation Committee which was set up last year under the stewardship of our colleague Dr Jean-Pierre Farrugia; and the reforms within public health, namely, the Consultation Document on the proposals for the Reform in Primary Care in Malta, and the reported hiring of the facilities of private hospitals by the government to tackle the bed shortage at Mater Dei Hospital.

And if you still have doubt that this decade will not be as exciting as the last one ... beyond our shores, we will most probably be spectators to the launching of bionic contact lenses to monitor patient health conditions, such as hypercholesterolaemia; further public health measures including the recent junk-food tax as seen in Romania to tackle the obesity pandemic; and many more mergers and take-overs such as the Novartis' offer to buy the rest of Alcon from Nestle and other shareholders for $39 billion, communicated last month.

Need I still try to convince you?

Ian C Ellul

Published by Medical Portals Ltd.
The Professional Services Centre
Guzi Cutajar street
Dingli, Malta

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Printer - Europrint Ltd.

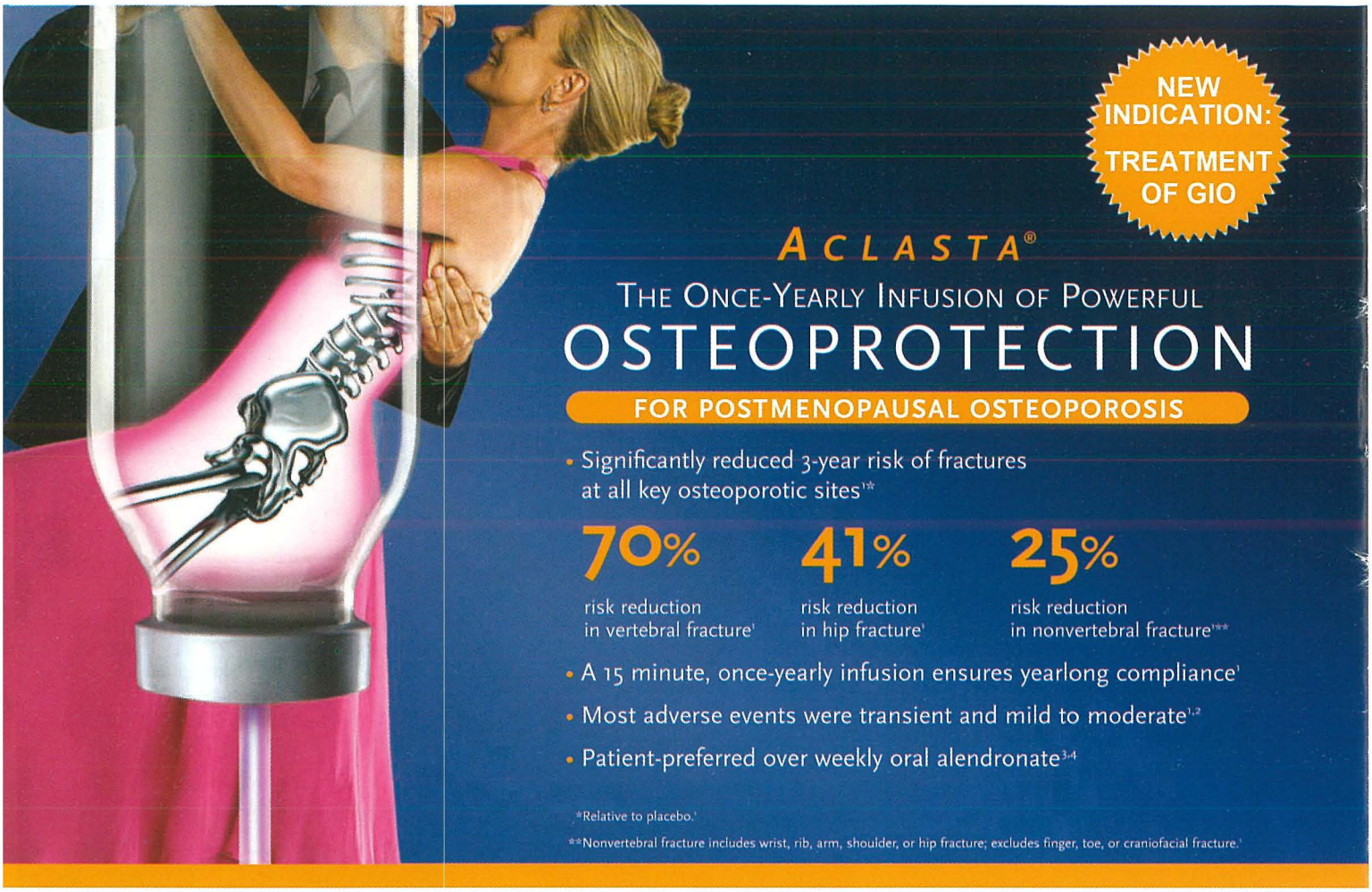
Front Page

Borage
***(Borago officinalis;* Fidloqqom)**

A common annual with large, prickly, hairy leaves and star-shaped, purple-blue flowers. Prefers disturbed ground or fields which lie fallow. Flowers in winter and spring.

Medicinal uses: as an infusion has been used as an expectorant, antipyretic, diuretic and to promote milk flow in nursing mothers. As a compress, has been used to relieve the pain and swelling of bruises and inflamed wounds.

Photography: Guido Bonett ARPS AMPS
Reference: Lanfranco G. Hxejjex medicinali u ohrajn fil-gzejjer Maltin. Media Centre Print; Malta. 1993.



Aclasta® 5 mg
PRESENTATION: Zoledronic acid. 100 mL solution bottle contains 5 mg zoledronic acid (anhydrous), corresponding to 5.330 mg zoledronic acid monohydrate.

INDICATIONS: Treatment of osteoporosis in post-menopausal women and men at increased risk of fracture, including those with a recent low-trauma hip fracture. Treatment of osteoporosis associated with long-term systemic glucocorticoid therapy in post-menopausal women and in men at increased risk of fracture. Treatment of Paget's disease of the bone.

DOSAGE AND ADMINISTRATION: Osteoporosis: A single intravenous infusion of 5 mg Aclasta administered once a year. In patients with a recent low-trauma hip fracture, it is recommended to give the Aclasta infusion two or more weeks after hip fracture repair. **Paget's Disease:** A single intravenous infusion of 5 mg Aclasta. Specific re-treatment data are not available for Paget's disease. Aclasta is administered via a vented infusion line and given at a constant infusion rate. The infusion time must not be less than 15 minutes. Patients must be appropriately hydrated prior to administration of Aclasta, especially important for the elderly and for patients receiving diuretic therapy. Adequate calcium and vitamin D are recommended in association with Aclasta administration. In patients with recent low-trauma hip fracture a loading dose of 50,000 to 125,000 IU of Vitamin D is recommended prior to the first Aclasta infusion. Not recommended for use in patients with severe renal impairment (creatinine clearance <35 ml/min). No dose adjustment in patients with creatinine clearance ≥35 mL/min, or in patients with hepatic impairment, or in elderly patients. Aclasta should not be given to children or adolescents.

CONTRAINDICATIONS: Hypersensitivity to zoledronic acid or to any of the excipients or to any bisphosphonate; hypocalcaemia; pregnancy; lactation.

PRECAUTIONS AND WARNINGS: Serum creatinine should be measured before giving Aclasta. Not recommended in patients with creatinine clearance <35 ml/min. Appropriate hydration prior to treatment, especially in the elderly and in combination with diuretics. Use with caution in conjunction with medicinal products that can significantly impact renal function (e.g. aminoglycosides or diuretics that may cause dehydration); pre-existing hypocalcaemia and other disturbances of mineral metabolism must be treated by adequate intake of calcium and vitamin D before initiating therapy with Aclasta. It is strongly advised that patients with Paget's disease receive supplemental calcium and vitamin D. Measurement of serum calcium before infusion is recommended for patients with Paget's disease. Severe and occasionally incapacitating bone, joint and/or muscle pain have been infrequently reported with bisphosphonate therapy. A patient being treated with Zometa should not be treated with Aclasta. As a precaution against osteonecrosis of the jaw (ONJ) a dental examination with appropriate preventive dentistry should be considered prior to treatment in patients with concomitant risk factors (e.g. cancer, chemotherapy, corticosteroids, poor oral hygiene). While on treatment, these patients should avoid invasive dental procedures if possible. For patients requiring dental procedures, there are no data available to suggest whether discontinuation of bisphosphonate treatment reduces the risk of osteonecrosis of the jaw. Aclasta is not recommended in women of childbearing potential.

INTERACTIONS: Specific drug-drug interaction studies have not been conducted with zoledronic acid. Caution is recommended when Aclasta is used concomitantly with drugs that can significantly impact renal function, such as aminoglycosides and diuretics that can cause dehydration.

ADVERSE REACTIONS: The incidence of post-dose symptoms (e.g. fever, myalgia, flu-like symptoms, arthralgia and headache) are greatest with the first infusion and decrease markedly with subsequent infusions. The majority of these symptoms occur within the first three days and were mild to moderate and resolved within three days of the event onset. The incidence of post-dose symptoms can be reduced with the administration of paracetamol or ibuprofen shortly following Aclasta administration. Very common: Fever. Common: Flu-like symptoms, chills, fatigue, pain, asthenia, malaise, arthralgia, myalgia, bone pain, back pain, pain in extremity, vomiting, nausea, headache, dizziness, atrial fibrillation, hypocalcaemia†, rigors†, ocular hyperaemia, atrial fibrillation, diarrhea, increased C-reactive protein. Local reactions: redness, swelling and/or pain. Others: renal dysfunction and osteonecrosis of the jaw. † Common in Paget's disease only. Please refer to SmPC for a full list of adverse events.

PACK SIZE: Aclasta is supplied in packs containing one 100ml bottle

LEGAL CATEGORY: POM.

MARKETING AUTHORISATION NUMBER: EU/1/05/308/001.

MARKETING AUTHORISATION HOLDER: Novartis Europharm Limited, Wimblehurst Road, Horsham, West Sussex, RH12 5AB, United Kingdom.

Consult full Summary of Product Characteristics (SmPC) before prescribing. Full prescribing information is available upon request from: Novartis Pharma, P.O. Box 124, Valletta VLT 1000, Malta. Tel +356 22983217. (JUL 09 2009-MT-01)

References: **1.** Aclasta SmPC. Novartis Europharm Ltd. **2.** Black DM, Delmas PD, Eastell R, et al; for the HORIZON Pivotal Fracture Trial. Once-yearly zoledronic acid for treatment of postmenopausal osteoporosis. N Engl J Med. 2007;356:1809-1822. **3.** Saag K, Lindsay R, Kriegman A, Beamer E, Zhou W. A single zoledronic acid infusion reduces bone resorption markers more rapidly than weekly oral alendronate in postmenopausal women with low bone mineral density. Bone. 2007;40:1238-1243. **4.** McClung M, Recker R, Miller P, et al. Intravenous zoledronic acid 5mg in the treatment of postmenopausal women with low bone density previously treated with alendronate. Bone. 2007;41:122-128.

NOVARTIS

Aclasta®
zoledronic acid 5 mg
solution for infusion
One Infusion. Yearlong Osteoprotection.

ACL Ad1 02/10 MT

Contributors

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Dr Thomas Attard MD, FAAP, FACG is a consultant Paediatrician and Gastroenterologist at Mater Dei Hospital; he has trained at The Johns Hopkins and Creighton-UNMC SoM(US) and worked at UNMC-Omaha Children's Hospital since 2001. His research interests are Inflammatory Bowel Disease and Hereditary Polyposis Syndromes.

Professor Albert Cilia-Vincenti MD FRCPath was Pathology Director to the Winchester & Eastleigh Healthcare Trust and Pathology Chairman, Malta Health Service. He served as London University Lecturer and was Pathology Head, University of Malta. He maintains an interest in nutritional and natural medicine and longevity, and also in wine. He is founding committee member of *il-Qatra.*

Mary Ann Sant Fournier B Pharm MPhil is the president of the Malta Chamber of Pharmacists, the national pharmacy and pharmaceutical association. She heads the Chamber delegation to the Standing Advisory Committee on POYC and Community Pharmacy Services.

Dr Tanya Melillo Fenech MD MSc is a Public Health Specialist and Head of the Infectious Disease Prevention and Control Unit. She is mainly involved in influenza surveillance, pandemic preparedness and response, Chemical, Biological, Radiological and Nuclear (CBRN) preparedness and vector borne disease.

Contents

COMPETITION

An 8 year old boy from Balzan presented with a 4 week history of intermittent fever. On examination, he had anaemia and hepatosplenomegaly. A splenic aspirate revealed numerous microorganisms within macrophages. The photograph shows the insect vector of the disease.

Photo Credit - Prof Michele Maroli Istituto Superiore di Sanita, Roma

What is the name of his disease? _____

What is the name of the most prevalent insect vector in the Maltese islands? _____

What is the name of the causative parasite in the Maltese islands? _____

What is the name given to the parasite observed microscopically within macrophages? _____

What constitutes the most important reservoir of infection? _____

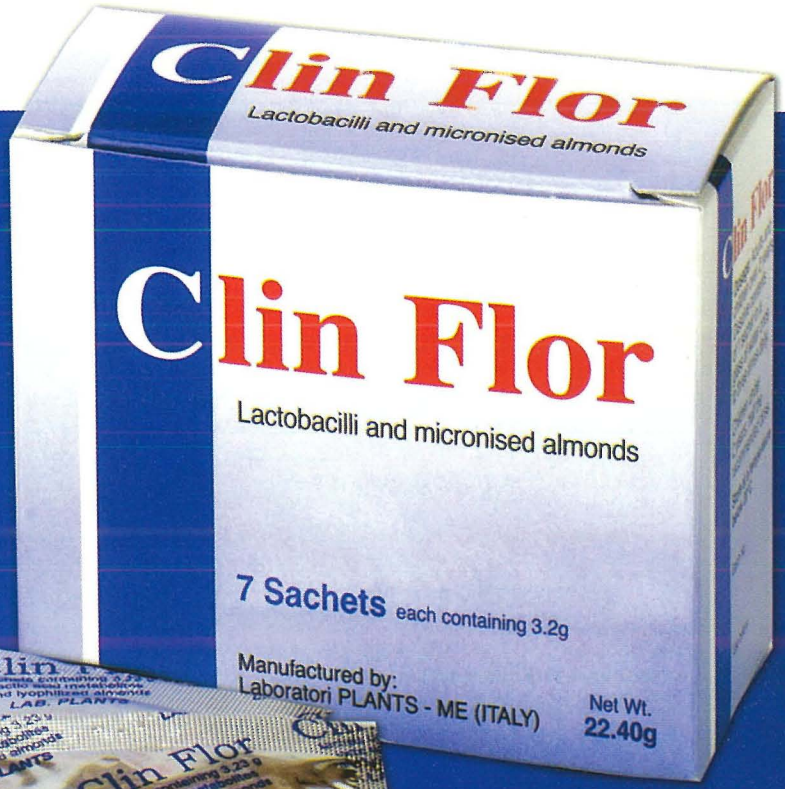
Kindly submit your answers to The Synapse, The Professional Services Centre, 3 Guzi Cutajar Street, Dingli, DGL 1201 or log on to **www.thesynapse.net/quizz**
Remember to include your name, address, email and mobile number.
All submission will participate in a draw.

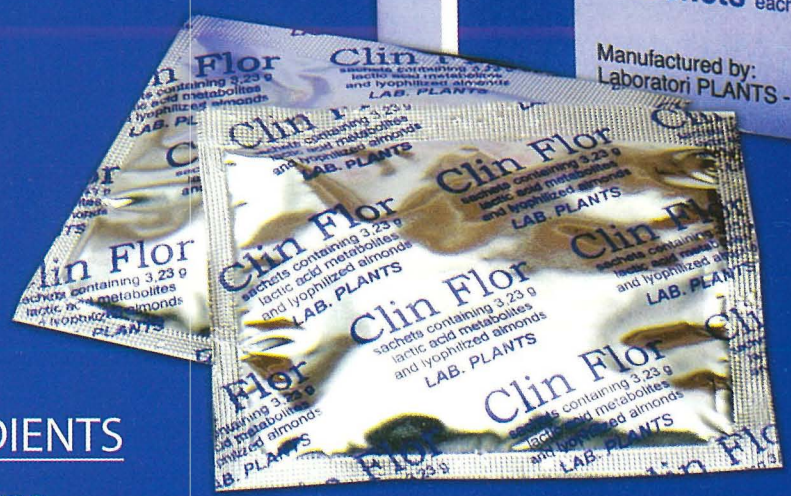
The first correct answer to be drawn will win a €30 book voucher from BDL and the runner up will win a €20 book voucher from BDL.

You have up to the 28 February 2010 to submit your answers

Clin Flor

RESTORES
INTESTINAL FLORA



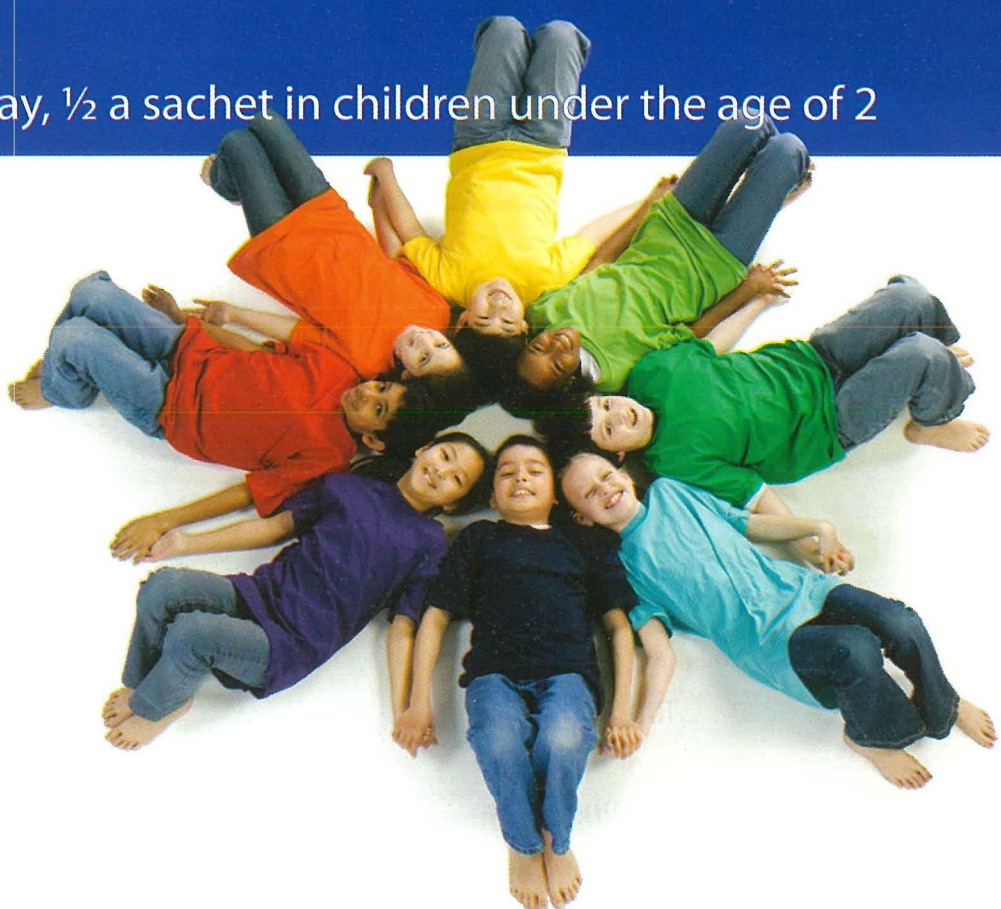


3 MAIN INGREDIENTS

Probiotic Strains
Micronised Almonds
Glucose

DIRECTIONS

1 sachet three times a day, ½ a sachet in children under the age of 2



Pre- and Probiotics in Clinical Practice:

Towards a Rational Approach to their use in Clinical Practice

by Thomas M. Attard

Clinicians are increasingly involved with probiotics in the wake of society's increased concern with the deleterious effects of antibiotics along with a trust towards more healthful foods and supplements. Pre- and probiotic agents however are not created equal and a familiarity with the key concepts and the published literature is desirable.

The human gastrointestinal tract is a complex microenvironment that includes over 500 distinct species of bacteria, fungi and helminths and more than 100 trillion microorganisms. The resulting symbiotic relationship, the intestinal microbiome, goes largely unnoticed until major perturbations result in clinical manifestations which we are only recently starting to fully appreciate.

The concept of healthful foods is far from recent; indeed, in 1907 Metchinhoff published his observations on the increased longevity of Bulgarian peasants who consumed large quantities of sour milk containing what is now known to be *Lactobacillus bulgaricus*.[1] He speculated that normal ageing might be reflective of an 'autointoxication' process through absorption of bacterial metabolites. Other workers, notably Henry Tissier, experimented with the use of Bifidobacterium in the treatment of infectious diarrhea, and later, in 1917, Alfred Nissle used a specific strain of *E.coli* to treat for Salmonellosis and Shigellosis.

Kollath in 1953 fist proposed the currently accepted definition of probiotics as 'live microorganisms, which when consumed in adequate amounts, confer a health effect on the host.[2] Prebiotics, on the other hand, are non-digestible fermented food components which allow specific changes, both in the composition and/or activity in the intestinal microflora, thereby stimulating the proliferation of beneficial bacteria and are therefore considered functional foods. They include carbohydrates, namely oligosaccharides, and dietary, including soluble, fiber. Prebiotics are in fact present in human breast milk and may play an important role in modulating infant immunologic maturation.

The exact mode of action of probiotics on human health is unknown; several putative mechanisms are supported by in-vitro observations. These include a direct antimicrobial effect by modifying the colonic microenvironment, secretion of antibacterial substances, competition for microbial nutrients and adhesion sites on the intestinal mucosa. Probiotics can also secrete antitoxins and may reverse some of the consequences of infection on the intestinal mucosa.

Studies suggest that probiotics can modulate the immune system impacting the evolution of allergic and autoimmune disorders and reducing cell proliferation in cancer. There is a bewildering range of potential pre- and probiotic agents, combinations and sources. The probiotic agents more extensively studied are lactobacilli (notably *Lactobacillus GG*), saccharomyces (*S. boulardii*), bifidobacteria, *Escherichia coli* and streptococci. Probiotics are marketed as medicinal products as well as healthful food additives example, in yogurts and as dietary supplements.

The devil, even in the colon, lurks in the detail. In-vitro effects do not necessarily result in therapeutic efficacy. Indeed, despite reasoned therapeutic potential, probiotics have been shown to be deleterious in certain conditions, for example acute pancreatitis.[3] Besides, the viability of individual probiotic agents in, for example, dairy products may be erratic[3] and the strict pharmaceutical standards in terms of quality assurance that affect the efficacy of these agents are harder to enforce if they are classified as food supplements rather than true medicinals.

There are also very clear differences in the efficacy of different probiotic agents and furthermore combinations of probiotic agents may not necessarily induce synergistic effects. Observations from well designed studies cannot be extrapolated to all probiotic agents, or indeed different preparations of the same agent.

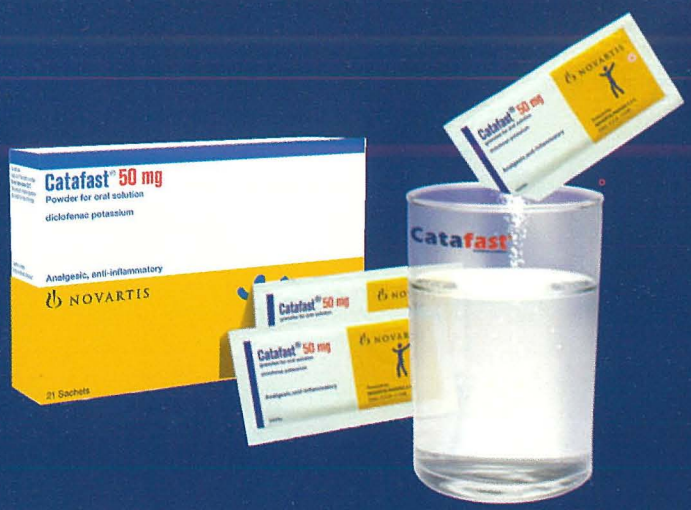
Continues page 19

Catafast®
Presentation: Catafast powder for oral solution in sachets of 50 mg diclofenac potassium. **Indications:** Short-term treatment in the following acute conditions: post-traumatic pain, inflammation and swelling, e.g. due to sprains, post-operative pain, inflammation and swelling, e.g. following dental or orthopaedic surgery, painful and/or inflammatory conditions in gynaecology, e.g. primary dysmenorrhoea or adnexitis, migraine attacks, painful syndromes of the vertebral column, non-articular rheumatism, as an adjuvant in severe painful inflammatory infections of the ear, nose or throat. **Dosage:** Dose to be individually adjusted, lowest effective dose to be given for the shortest duration. **Adults:** 50 to 150 mg daily in divided doses. For dysmenorrhoea and migraine attacks: up to 200 mg daily. **Adolescents aged 14 and over:** 50 to 100 mg daily in divided doses up to 150mg daily. **Children and adolescents below 14 years of age:** not recommended. **Contraindications:** Active gastric or intestinal ulcer, bleeding or perforation; known hypersensitivity to diclofenac or to any of the excipients, to aspirin or other non-steroidal anti-inflammatory drugs (NSAIDs); Patients in whom attacks of asthma, urticaria, or acute rhinitis are precipitated by acetylsalicylic acid or other NSAIDs; last trimester of pregnancy; severe hepatic, renal or cardiac failure. **Precautions/warnings:** Avoid use with other systemic NSAIDs including COX-2 inhibitors. Risk of gastrointestinal (GI) bleeding, perforation or serious allergic reactions, persistent abnormal liver and renal function tests; to be discontinued if these conditions occur. Risk of allergic reactions. May mask signs and symptoms of infection. Caution recommended in patients with symptoms/history of GI disease, asthma, seasonal allergic rhinitis, chronic pulmonary diseases, chronic infections of the respiratory tract, elderly or impaired hepatic function (including porphyria), ulcerative colitis or Crohn's disease. Caution when used concomitantly with corticosteroids, anticoagulants, anti-platelets agents or SSRIs. Caution while driving or using machines. Combined use with protective agents to be considered in patients with history of ulcers, elderly, and those requiring low dose aspirin. Monitoring of liver function and blood counts recommended during prolonged treatment. Monitoring of renal function recommended in patients with history of hypertension, impaired cardiac or renal function, extracellular volume depletion, the elderly, patients treated with diuretics or drugs that impact renal function. Monitoring recommended in patients with defects of haemostasis. As Catafast contains a source of phenylalanine, may be harmful for patients with phenylketonuria. Beware of severe fluid retention and oedema. Very rarely reported serious skin reactions, some of them fatal, including exfoliative dermatitis, Stevens-Johnson syndrome and toxic epidermal necrolysis. Discontinue at the first appearance. May be associated with a small increased risk of arterial thrombotic events. Before treatment consider carefully patients with uncontrolled hypertension, congestive heart failure, established ischaemic heart disease, peripheral arterial disease, and/or cerebrovascular disease, and before initiating longer-term treatment of patients with risk factors for cardiovascular disease. **Pregnancy and lactation:** Should not be used in the first and second trimester of pregnancy and by breast-feeding mothers. Not recommended to use in women attempting to conceive as it may impair female fertility. Should not be administered during breast feeding in order to avoid undesirable effects in the infant. **Interactions:** Caution with concomitant use of diuretics and antihypertensives (e.g. beta blockers, ACE inhibitors), methotrexate, other NSAIDs and corticosteroids, SSRIs. Monitoring recommended for patients receiving anticoagulants, anti-platelet agents as well as blood glucose level if used concomitantly with antidiabetics. Monitoring of serum lithium and digoxin levels recommended if used concomitantly. Dose of diclofenac to be reduced in patients receiving ciclosporin. Interactions with concomitant use of quinolones antibacterials. **Adverse reactions: Common undesirable effects are:** Headache, dizziness, vertigo, nausea, vomiting, diarrhoea, dyspepsia, abdominal pain, flatulence, anorexia, transaminases increased, rash. **Rare undesirable effects are:** Hypersensitivity, anaphylactic and anaphylactoid reactions (including hypotension and shock), somnolence, asthma (including dyspnoea), gastritis, gastrointestinal haemorrhage, haematemesis, melaena, diarrhoea haemorrhagic, gastrointestinal ulcer (with or without bleeding or perforation), hepatitis, jaundice, liver disorder, urticaria, oedema. **Very rare undesirable effects are:** Thrombocytopenia, leukopenia, anaemia (including haemolytic anaemia and aplastic anaemia), agranulocytosis, angioneurotic oedema (including face oedema), disorientation, depression, insomnia, nightmare, irritability, psychotic disorder, paraesthesia, memory impairment, convulsion, anxiety, tremor, aseptic meningitis, taste disturbances, cerebrovascular accident, visual disturbance, vision blurred, diplopia, tinnitus, hearing impaired, palpitations, chest pain, cardiac failure, myocardial infarction, hypertension, vasculitis, pneumonitis, colitis (including haemorrhagic colitis and exacerbation of ulcerative colitis or Crohn's disease), constipation, stomatitis, glossitis, oesophageal disorder, diaphragm-like intestinal strictures, pancreatitis, fulminant hepatitis, bullous eruptions, eczema, erythema, erythema multiforme, Stevens-Johnson syndrome, toxic epidermal necrolysis (Lyell's syndrome), dermatitis exfoliative, loss of hair, photosensitivity reaction, purpura, allergic purpura, pruritus, acute renal failure, haematuria, proteinuria, nephritic syndrome, interstitial nephritis, renal papillary necrosis. **Marketing Authorisation number:** MA 088/00303 **Marketing Authorisation Holder:** Novartis Pharmaceuticals UK Ltd., Frimley Business Park, Frimley, Camberely, Surrey GU16 7 SR, UK. Please refer to Summary of Product Characteristics (SmPC) before prescribing. Full prescribing information is available on request from Novartis Pharma, P.O. Box 124, Valletta, VLT 1000, Malta. Tel +356 22983217. 2009-MT-01-Catafast

Catafast®

Diclofenac potassium

Faster than the Fastest ...



Average dose:
2-3 sachets/day

- **Onset of action within 5 minutes** [1]
- **Significant pain relief within 13.5 minutes** [2]
- **Placebo-like tolerability** [3]

References

1. Novartis Pharmaceuticals UK Ltd. Catafast Summary of Product Characteristics.
2. Marzo A et al. Pharmacokinetics of diclofenac after oral administration of its potassium salt in sachet and tablet formulations. ArzneimForsch / Drug Res 2000; 50(I):43-47.
3. Diener HC, Montagna P et al. Efficacy and tolerability of diclofenac potassium sachets in migraine: a randomized, double-blind, cross-over study in comparison with diclofenac potassium tablets and placebo. Cephalalgia 2006;26(5):537-47.

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CTF Adj1 02/10 MT

POYC ON & UP wards

by Mary Ann Sant Fournier

In the present scenario of primary health care reform proposals and concern for health care system sustainability, not least the access to and costs of medicines in the national health service, the POYC paradigm has continued to evolve.

The Foresight study[1] presented four possible future scenarios for community pharmacy as an integral part of the Health system in Malta 2010 vision (Table 1).

- **Business as usual: where current trends are pursued with no change in policy**
- **Hard Times: things get worse but no catastrophic collapse**
- **Onwards and Upwards: current trends are put into a better environment**
- **Visionary/Paradigm Shift: successful public participation in policy allows pursuit of visionary/ alternative directions**

Table 1: The four scenarios for community pharmacy as an integral part of the Health system in Malta 2010 vision.

The present scenario may be considered to be at the third level, that is 'Onwards and Upwards', though some aspects of the fourth, highly desirable scenario (Visionary / Paradigm Shift) may be said to have been achieved.

POYC Implementation Timeline (December 2007 - Present)

The POYC scheme was implemented as a pilot project in December 2007, with an incremental approach, attaining roll-out by July 2008 in 28 localities in Malta, in 68 private pharmacies (n=207, 32.85%), in which community pharmacists were serving 25,000 registered, eligible, chronic patients (n= 130,0000, 19%); this figure to date increasing to 30,000 patients. The POYC Standing Advisory Committee was convened in July 2008 and decided that, as provided by the POYC agreement[2], the POYC pilot should undergo interim analysis; thus, further rollout to Iklin was temporarily suspended. At that stage, patient registration in Sliema had been completed.
An expected development, a direct effect of decentralisation, was the closure of the Mosta Health centre pharmacy in August 2008, resulting in pharmacists and other human resource re-deployment, after the POYC Unit invited remaining patients in the area to register with the pharmacy of their choice.

Interim Analysis

The Government and the partners made separate assessments. The former's assessment exercise was a rather unexpectedly long, internal, unilateral situational analysis (July 2008-October 2009).

Also, Government embarked on a reorganisation of the POYC Unit, appointing a Pharmacist Director. The Unit has since evolved into a fully fledged department with phased increased pharmacist and other supporting human resources, including managerial IT and financial audit staff.

Professional and Organisational Assessment

The Malta Chamber of Pharmacists and the Pharmacy Section of the Chamber of Small And Medium Enterprises (GRTU) immediately forwarded to the incoming Minister for Social Policy, a preliminary professional and organisational assessment document[3] factually addressing the strengths and weaknesses of the POYC as implemented, with several proposals and recommendations for discussion and implementation, as an envisaged re-engineering exercise involving the three parties signatory to the Agreement.

POYC Workshops – Structured Dialogue

In the period August-October 2008, two cycles of small group dialogue meetings were organised (August/ September: 12 meetings, 42 pharmacies, 18 localities participating in the first phase of the national roll-out; October: 3 meetings, 23 pharmacies, 8 localities in the pilot area). The format was of working luncheons for managing and locum pharmacists practicing in POYC pharmacies. Discussions were held under research conditions, with attention to confidentiality and data protection issues. An inclusive approach was adopted, urging non-pharmacist owners to participate. Participants were followed up by phone and email. The option of one-to-one meetings and support by visits to individual pharmacists and pharmacies were also offered and welcomed.

Participants were invited to be proactive and present their recommendations to overcome challenges.

The objectives of the dialogue meetings were to:
- listen to the individual and collective pharmacists' experiences and issues, and to trouble-shoot where possible, immediately;
- support pharmacists and pharmacy owners to resolve their issues, rendering the system as efficient and professional as possible;

Continues page 21

GALVUS and EUCREAS

COMPREHENSIVE POWER TO ADVANCE TYPE 2 DIABETES TREATMENT

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Presentations: Galvus 50 mg tablet Each tablet contains 50 mg of vildagliptin and 47.82 mg of the excipient lactose. **Indications:** For the treatment of type 2 diabetes mellitus: 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. **Dosage and Administration:** In combination with metformin or thiazolidinedione 100mg daily, administered in two divided doses of one 50 mg in the morning and one 50 mg in the evening. In combination with sulphonylurea, 50 mg once daily in the morning. Galvus can be administered with or without a meal. Doses greater than 100 mg are not recommended. Caution should be exercised when treating patients aged 75 years and over. Galvus is not recommended for use in patients less than 18 years old. **Contraindications:** Hypersensitivity to the active substance or to any of the excipients **Precautions/Warnings:** Galvus should not be used in patients with type 1 diabetes or for the treatment of diabetic ketoacidosis. Galvus is not recommended in patients with moderate or severe renal impairment or in haemodialysis patients with end-stage renal disease. 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. Vildagliptin should be used with caution in patients with congestive heart failure of New York Heart Association (NYHA) functional class I-II and is not recommended in patients with NYHA functional class III-IV. 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. **Pregnancy and lactation:** Galvus should not be administered during pregnancy or lactation. **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, hepatic dysfunction (including hepatitis). Monotherapy: Common (>1/100, <1/10): dizziness, Uncommon (>1/1,000, <1/100): headache, constipation, arthralgia, hypoglycaemia, oedema peripheral. Very rare (<1/10,000): URTI, nasopharyngitis. Combination with metformin: Common: tremor, headache, dizziness, nausea, hypoglycaemia. 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. **PACK SIZES:** 7, 28 tablets **MARKETING AUTHORISATION NUMBERS:** EU/1/07/414/001, 003. **MARKETING AUTHORISATION HOLDER:** Novartis Europharm Limited, Wimblehurst Road, Horsham, West Sussex, RH12 5AB, United Kingdom. Before prescribing please refer to Summary of Product Characteristics (SmPC). Full prescribing information is available on request from Novartis Pharma, P.O. Box 124, Valletta, VLT 1000, Malta. Tel +356 22983217. 2009-MT-03 GAL SEP 2009

Eucreas®

Presentations: Eucreas 50 mg/ 850 mg film-coated tablet. Eucreas 50 mg/1000 mg film-coated tablet. Each 50 mg/850 mg film-coated tablet contains 50 mg of vildagliptin and 850 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 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. **Dosage and Administration:** The recommended daily dose should be based on the patient's current regimen of vildagliptin and /or metformin hydrochloride. The usual dose is 50 mg/850 mg or 50 mg/1000 mg twice daily one tablet in the morning and the other in the evening. Eucreas should be taken with or just after food. Doses of vildagliptin greater than 100 mg are not recommended. Patients > 65 taking Eucreas should have their renal function monitored regularly. Eucreas is not recommended in patients >75 years. 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. **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 **Precautions/Warnings:** Eucreas 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 >3x the ULN. LFT's 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. Vildagliptin should be used with caution in patients with congestive heart failure of New York Heart Association (NYHA) functional class I-II and is not recommended in patients with NYHA functional class III-IV. Metformin is contraindicated in patients with heart failure, therefore Eucreas is contraindicated in this population. 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. **Pregnancy and lactation:** Eucreas should not be administered during pregnancy or lactation. **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, <1/10): dizziness, Uncommon (>1/1,000, <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, hypoglycaemia. Uncommon: fatigue. **PACK SIZES:** 30, 60 film-coated tablets **MARKETING AUTHORISATION NUMBER:** EU/1/07/425/002–3, EU/1/07/425/8-9. **MARKETING AUTHORISATION HOLDER:** Novartis Europharm Limited, Wimblehurst Road, Horsham, West Sussex, RH12 5AB, United Kingdom. Consult full Summary of Product Characteristics (SmPC) before prescribing. Full prescribing information is available upon request from: Novartis Pharma, P.O. Box 124, Valletta VLT 1000, Malta. Tel +356 22983217 2009-MT-03 EUC SEP 09

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NOVARTIS

Galvus vildagliptin

Eucreas vildagliptin/metformin

1. Novartis Europharm Ltd. Galvus® Summary of Product Characteristics 2009
2. Novartis Europharm Ltd. Eucreas® Summary of Product Characteristics 2009

Healing & Disease Reversal – Part III

by Albert Cilia-Vincenti

This is the third part of a series summarising Dean Ornish's work, demonstrating that there is more to medicine than pharmaceutical drugs and surgery. His clinical research on disease reversal, in particular, may not be exactly what you learnt at medical school. He is Professor of Medicine and President of the Preventive Medicine Research Institute, California University, San Francisco.

Cardiovascular disease is the biggest pandemic of all time. Type 2 diabetes and obesity are closely following suit. However, coronary heart disease, type 2 diabetes and obesity can be prevented in almost everyone simply by making sufficient changes in diet and lifestyle. If we did, these pandemics could be as rare as malaria is in Europe or North America.

The Canadian INTERHEART study followed 30,000 men and women in 52 countries and found that 9 nutritional and lifestyle factors accounted for 95% of the risk of heart attack in every racial/ethnic group. These factors were: smoking, cholesterol level, hypertension, diabetes, obesity, diet, physical activity, alcohol consumption, and emotional stress/depression. Therefore, the disease that kills most people worldwide, and accounts for the single largest health care expenditure, is almost completely preventable by changing diet and lifestyle in ways which are described in this series.

A study[1] which reviewed all 11 randomised controlled trials of angioplasty, found that angioplasties do not reduce the heart attack risk and do not prolong life in patients with stable coronary artery disease. The same conclusion was reached in a more recent large-scale randomised controlled trial.[2]

People find it difficult to believe that comprehensive lifestyle changes may work even better than drugs and surgery in treating heart disease. Another major study[3] found that regular physical exercise worked even better than angioplasty for preventing heart attacks, strokes, and premature deaths. A further study[4] also found that those taking Atorvastatin had 36% fewer cardiac events after 18 months than those undergoing angioplasty. Several randomised controlled trials have shown that coronary bypass surgery prolongs life only in those with the most severe disease which, Ornish believes, is only a small percentage of those who receive it (in the US).

Angioplasty and bypass surgery may reduce angina, but he claims most people can reduce angina at least as much in only a few weeks just by changing their diet and lifestyle.

According to Ornish, Medicare statistics show a 543% increase in angioplasties and bypass operations between 1984 and 1996, despite the absence of clear outcome benefits. Ornish believes this challenges the sustainability of Medicare.

Spiraling health care costs are being devoted to surgical procedures that are invasive, dangerous and largely ineffective, whereas little or no money goes into diet and lifestyle interventions which non-invasive, safe, inexpensive, and powerfully effective in treating coronary heart disease as well as other chronic diseases – and the only side effects are good ones.

In 2005, health care costs of Safeway supermarkets' employees in the US exceeded company net income by 20%. This was not sustainable. Ornish helped them develop incentives for wellness and prevention services in their health plan. The following year, Safeway's health care costs declined by 11% and they remained flat the year after.

Unfortunately, most health care providers still pay only for drugs and surgery, not for diet and lifestyle modifications that can help prevent the need for these. Professor Ornish sees as perverse the incentives and disincentives that reward surgical procedures and drugs over preventive approaches throughout medicine. Doctors are genuinely interested in helping their patients, but since they're trained to use drugs and surgery but not lifestyle interventions and preventive approaches, and because health care systems pay for drugs and surgery but not lifestyle/preventive approaches, it's not surprising that most physicians rely primarily on drugs and surgery. As doctors spend less time with more and more patients, there isn't enough time to talk about diet and lifestyle issues.
Thus at a time when the limitations and increasing costs of high-tech interventions, such as angioplasty and stents, are becoming better documented, the power of, and cost savings from, diet and lifestyle interventions are becoming clearer.

In one of the more extreme examples of how powerful changes in diet and lifestyle can be, Ornish's team worked with a few men and women with severe coronary heart disease waiting for a heart transplant. They offered some of them their programme of comprehensive lifestyle changes whilst waiting for a donor. After one year, some improved so much that

Continues page 21

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Update on H1N1 Virus

by Tanya Melillo Fenech

Local update

Up to 1st February, 1,685 persons have been tested for H1N1 and 53% came positive to H1 and 10% came positive to influenza A. Our peak during our second wave occurred during week 52. The rate of influenza-like symptoms has been decreasing in the community since mid-January.

5 deaths have occurred since the first diagnosed case on the 1st of July 2009 and around 2,388 persons were dispensed Tamiflu® from government stocks. So far 63,512 persons in Malta have taken the H1N1 vaccine.

Worldwide update

Worldwide more than 208 countries have reported laboratory confirmed cases of pandemic influenza H1N1 2009, including around 14,000 deaths. The most intense areas of pandemic influenza virus transmission currently are in parts of North Africa, South Asia, and East and South-Eastern Europe.

The current H1N1 influenza virus outbreak remains moderate and its effects are closer to those of 1957 and 1968 according to the World Health Organization. It is still too soon to say what will happen once the southern hemisphere enters Winter and whether the virus will become more infectious. For many countries there was an increased burden on health care services especially ITU beds, hospital beds, A&E and GP services.

Epidemiological data

Influenza H1N1 (2009) is likely to remain the predominant flu virus for 2010 flu season and there is a risk that the genetic composition of the virus could 'drift' causing more severe illness.

Experts are saying that the adjuvanted H1N1 (2009) vaccine (Pandemrix®) gives a high level of immunity to individuals, which is particularly important for those with a poorer immune response. It may also give longer lasting immunity and is likely to protect against 'drifted' strains.

Most infections have been characterised by mild self-limiting illness and the mortality from H1N1 influenza has been lower than in previous pandemics, however, the disease has disproportionately affected young people, and this is where most complications have occurred, particularly where pre-existing chronic illness exists.

Data collected so far show that
- Deaths from H1N1 flu amongst younger adults have been more than 30 times higher than deaths amongst the same age group in the 2008 flu season;
- Rates of hospitalisation have been particularly high amongst the under fives;
- Some people have been so seriously ill that they required Extracorporeal Membrane Oxygenation.

Centres for Disease Control and Prevention (CDC) Data

Analysis on data collected so far in North America shows that H1N1 virus had a greater impact on children and young adults than typical seasonal influenza. They concluded that:

For children 0-17 year
- out of every 100 children, 21 fell ill with influenza (case attack rate)
- the population mortality rate was 14.9 deaths per million
- the hospital rate was 4.4 out of every 1000 ill child and
- the inpatient mortality rate was 15 deaths out of every 1000 children hospitalised

For adults 18-64 years
- out of every 100 adult, 14 fell ill with influenza (case attack rate)
- the population mortality rate was 38.9 deaths per million
- the hospital rate was 4.5 out of every 1000 ill adult
- the inpatient mortality rate was 62 deaths out of every 1000 adult hospitalised

For persons over 65 years of age
- out of every 100 elderly, 10 fell ill with influenza (case attack rate)
- the population mortality rate was 32.9 deaths per million elderly
- the hospital rate was 5.2 out of every 1000 ill elderly patients
- the inpatient mortality rate was 61 deaths out of every 1000 elderly patients hospitalised

The conclusion was that the pandemic was deadly for elderly persons and least for children with regards to case fatality rate but more likely to cause children to fall ill and least the elders with regards to case attack rate. Elderly were hit hardest and children least with regards to mortality rate and also hospital rate. Treatment was more successful for hospitalised children than elderly and adults who were more likely to die.

Role of Interleukin as possible cause for death in some H1N1 patients

Canadian and Spanish researchers have found high levels of interleukin 17 in the blood of severe H1N1 patients, and low levels in patients with the mild form of the disease. Interleukin 17 is part of the regulation of white blood cells which fight infection and disease. In certain circumstances, the molecule becomes 'out of control', leading to inflammation and autoimmune diseases and this so far is the first potential immunological clue which could explain why some patients developed severe pneumonia and got severely ill or died as compared to others exposed to the same virus.

Letters to the Editor

General Practice as a high context discipline

Francesco Carelli is a General Practitioner and Professor of Family Medicine at the University of Milan.

by Francesco Carelli

Which are the essential features that influence all skills, attitudes, and knowledge acquisition in general practice education? They are not taught and learned as separate competencies, in fact the way in which these essential features are an integral part of the discipline differentiates this discipline from most of the other medical specialty branches. This defines the specific role of family medicine within medical care.

General Practice/Family Medicine, as a patient centred discipline, is a "high context discipline"[1], accepting the subjective world of patient health beliefs, and family and cultural influences. Most other specialties in medicine develop as "low context discipline", decision making to objective facts, measurable quantitative information and visual diagnostic techniques.

Patient centred clinical care includes as a consequence a scenario whereby the doctor involves him/herself as a person in this relation with the patient, not merely as a medical provider. Education should learn to promote attitudes, strengths and weaknesses, values and beliefs in a partnership relation with the individual patient.

Although a high-context and very individually focused discipline, General Practice/Family Medicine should be as much as possible based on scientific evidence. Combining and balancing both approaches in the development of practice guidelines provides an authority based approach which complements the support from the scientific community. Education should provide the competence to search, collect, understand and interpret scientific research critically. Using evidence as much as possible, and implementing authority based guidelines should become a family doctor's attitude that would and should be maintained over the entire professional career. Knowing and using with flexibility the principles of lifelong learning and quality improvement should be considered as an essential competence.

Reference

1. Helman CG. The role of context in Primary Care. J Coll Gen Pract 1984; 34:547-50.

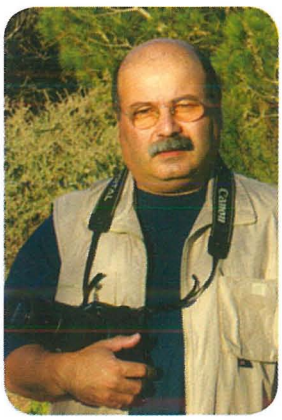
The Process of Evolution Continues

The process of evolution has been a constant characteristic of TheSynapse. During the last thirteen years TheSynapse has evolved into a number of different media and services, each of them complementary to each other.
You will notice a radical change in the **design of the magazine** and during this year we will be introducing many new features both on the web portal as well in the magazine.

The editorial board wishes to acknowledge the outgoing graphic designer, Conrad Bondin, for his sterling work carried out throughout the years, as part of the team behind The Synapse Magazine. Throughout the past 6 years, his expertise was important to achieve and further consolidate our market position. The editorial board wishes him success in his future endeavours. The board also welcomes aboard Jeff Galea as the new designer.

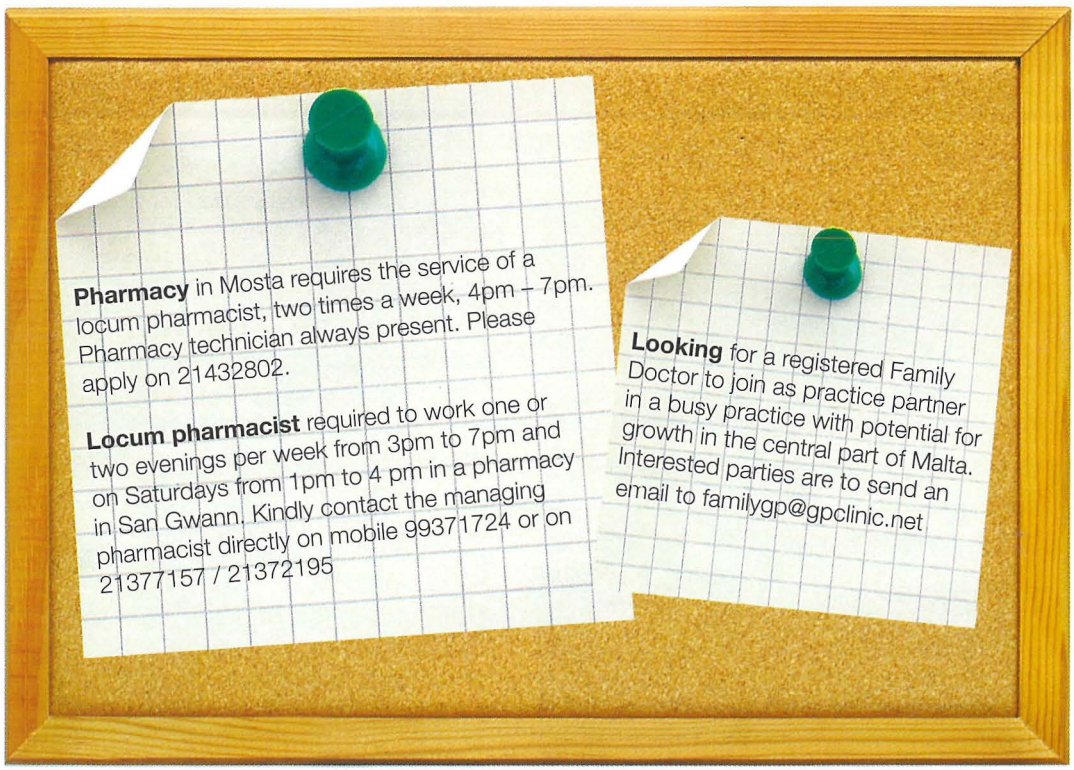
During this year, the magazine cover will feature a number of **Maltese medicinal plants**. The photographs for this series have been contributed by Guido Bonett who has had a keen interest in nature and its conservation from a fairly young age and, as a consequence, has travelled widely in his quest to observe and photograph wildlife.

Mr Bonett is an active member of the Malta Photographic Society and has placed first in various competitions. In 2005, he was awarded the status of Associateship of The Royal Photographic Society of Great Britain (ARPS) following the presentation of a photographic panel based on local nature. In 2008, he was awarded an Associateship of The Malta Photographic Society (AMPS).



Guido Bonett

Last but not least, by having such a large, active and unique community, we are securing a number of **exclusive benefits** for members of TheSynapse by virtue of agreements with a number of strategic partners. We are sure that these benefits would make TheSynapse members proud of their membership in this large community.



EVENTS

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A Journey through and self

by Marika Azzopardi

So many Maltese doctors have travelled far and wide and created niches for themselves within new medical settings around the world. Such is the case of ***Dr Mark Agius*** *who left Malta in the mid-seventies to follow medical training in the UK. Spending the first three years in General Practice training, he was obliged to follow a series of rotation jobs, which experience proved to be crucial to his eventual professional development.*

Whilst in Malta to attend the 7th Malta Medical School Conference, Dr Agius shares some memories, "The very first job I held in England was in psychiatry. The area was new to me and whilst I went on to concentrate on General Practice, those first weeks probably did the trick. It eventually led me to change jobs down the line in 1996 and join my old boss who was a senior psychiatrist in Luton."

Dr Agius found himself immersed in a practice with 13,000 patients on board and taking on most of the psychiatric cases. Then he changed roles in 1996, to work full time in psychiatry.

"I eventually became an Associate Specialist and was sort of co-opted into doing psychiatry. Luton, 35 miles north of London on the M1, is a highly deprived area and there is a far greater chance of finding people with psychotic illnesses there than anywhere else. The inner city is particularly deprived and this provoked me to work towards getting funding to set up a specialised service in Luton."

The funding totalled one million British pounds which amount the government was allotting for each county to set up early intervention services for psychotic illness. Dr Agius lobbied for his plan to be accepted, targeting the area which had no intervention services for early psychotic cases. Once he started the service , he involved two junior doctors with whom he checked 62 patients who were treated for early symptoms of psychosis in his team, and compared them to 62 patients who received treatment as usual in ordinary community teams. This meant that he could audit the

research discovery

outcomes three years after the patients began treatment. Good nursing care was key to the success of the service. "A care coordinator would go out to meet each patient in town, take a walk or have lunch and discuss symptoms. Each patient learnt to recognise symptoms in the most friendly manner possible. It was a matter of assertive outreach and it worked."

The project was significant in that its outcome proved to be a good illustration that a government policy of funding early intervention in patients with psychosis does help. The project also helped demonstrate how to measure the outcomes of mental health services in Britain. Eventually news of the success of the project obtained Dr Agius wider recognition, bringing in invitations to conferences wherein he could speak about his work and foresight.

"The project was a natural continuation of what I had discerned from the very start – the need for collecting data and analysing it on efficient computer systems that could help the general practitioner draw conclusions from his own stock of patients. At that time, psychiatry had not as yet started to delve into this potential and as I followed my new practice I realised how important for the medical field all this data keeping could become."

Dr Agius started to measure rates of improvement using functional outcomes to gauge progress in patients. This meant that he looked at whether the patients could return to normal lives, including whether they could return to work or education.The Department of Health became interested in this as it needed to study the population in question, the problems inherent within the area and subsequently make viable decisions regarding potential service requirements, staff required to man these services, and the kind of finances needed to make it all possible. The data also helped measure what was being achieved within the community.

Being highly pro-active has been the highlight of Dr Agius' career so far. Presently, with many others, he is involved in the Foundation Programme in Bedford, which provides junior doctors the chance to try out different specialities and gain invaluable experience. In particular, he enjoys working with Dr Rashid Zaman, a colleague from whom he gains much support and who shares with Dr Agius his own experience as an educator and researcher at the University.

As early as 1987 when he was still a General Practitioner, Dr Agius had contacted Professor Rizzo Naudi who was at the time Parliamentary Secretary for the Elderly and offered him help. "It was that offer to give something to the Maltese community back then that led me to contact a small group of local family doctors and work with them to set up the founding committee of the Malta College of Family Doctors. I acted as a link between the Royal College of General Practitioners and the MCFD and brought two UK doctors over to help with the launch of the college in Malta. I still remember the launch's reception at Casa Leone. I am so proud of the fact that I had the privilege to enable the college to happen."

Today Dr Agius is Associate Specialist in the Bedfordshire and Luton Partnership Trust, as well as being Visiting Research Associate of the Department of Psychiatry at the University of Cambridge. In this capacity he is asked to conduct research, scholarship and teaching and is involved in several ongoing activities. Last year was the University's 800th year celebration. "It is fantastic to be associated with such a prestigious University – just think of the fact that it has produced 41 Nobel prizes mostly in the Sciences. Yes, I have a lot on my plate and there is even more... I am quite interested in the folklore of the Mediterranean and get invited to different countries to give lectures... travelling Europe is my hobby and it has helped me compare notes and learn about what influences the Mediterranean draws upon. Yes, it has been a long journey of discovery all the way and is still going strong."

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- Rapid and long-lasting symptom resolution in AECB[2,3]
- High clinical success rates in AECB, ABS and CAP[2,4,5]
- Good tolerability and extensive clinical experience with over 117 million patients treated worldwide [6]
- Extensively investigated in over 14,000 patients in clinical trials and in 92,000 patients in post-marketing surveillance studies[6]
- Easy to use
  - 1 x 400 mg tablet once daily for 5 to 10 days facilitates patient compliance
  - No dose adjustments required for the elderly, patients with low body weight or patients with renal impairment

1 Odenholt I, Cars OJ Antimicrob Chemother 2006;58:960-965
2 Wilson R et al. Chest 2004;25:953-964
3 Miravittles M et al., Clin Drug Invest 2004;24(2):63-72
4 Portier H et al. Eur J Clin Microbiol Inf Dis 2005;25:367-376
5 Siegert R et al; Reso Med 2000;94:337-344
6 http://www.avelox.com (accessed July 20, 2009).

* Avelox should be used in accordance with the full Summary of Product Characteristics

AVALOX® 400mg FILM-COATED TABLETS, AVALOX® 400mg/250ml SOLUTION FOR INFUSION (MOXIFLOXACIN): Refer to local prescribing information for full details before prescribing. **Tablets** each contain 400mg moxifloxacin as hydrochloride. **Solution for Infusion** contains moxifloxacin 1.6mg/ml (400mg/250ml), as moxifloxacin hydrochloride. **Indications:** Bacterial infections caused by moxifloxacin susceptible bacteria as follows: **Tablets: adequately diagnosed** acute exacerbation of chronic bronchitis and acute bacterial sinusitis only when it is considered inappropriate to use antibacterial agents that are commonly recommended for the initial treatment of these infections or when these have failed to resolve the infection; community acquired pneumonia, except severe cases only when it is considered inappropriate to use antibacterial agents that are commonly recommended for the initial treatment of this infection; mild to moderate pelvic inflammatory disease without an associated tubo-ovarian or pelvic abscess in combination with another appropriate agent unless moxifloxacin resistant Neisseria gonorrhoeae can be excluded. **Solution for Infusion:** community acquired pneumonia and complicated skin and skin structure infections in patients requiring initial parenteral therapy only when it is considered inappropriate to use antibacterial agents that are commonly recommended for the initial treatment of these infections. Consideration should be given to official guidance on the appropriate use of antibacterial agents. Refer to SmPC and/or local laboratory guidelines for microbiological activity. **Dosage/Use: Adults: Tablets** 400mg once daily for 5-10 days in acute exacerbation of chronic bronchitis, 7 days in acute sinusitis, 10 days in community acquired pneumonia and 14 days in mild to moderate pelvic inflammatory disease. **Solution for Infusion intravenous dose** of 400mg once daily (can be administered via a T-tube, with compatible infusion solutions), the duration of infusion should not be less than the recommended 60 minutes and the intravenous dose of 400mg once a day should not be exceeded (QT prolongation may increase with increasing plasma concentrations due to rapid i.v. infusion). Initial i.v. use may be followed by oral administration. For sequential administration total treatment duration depends on indication, type and severity of disease and clinical response: community acquired pneumonia, 7-14 days; complicated skin and skin structure infections, 7-21 days. No dose adjustment in elderly or patients with low body weight, in impaired renal function or in patients on chronic dialysis. Insufficient data in patients with severely impaired liver function. Efficacy and safety not established in children and adolescents. **Contra-indications:** Hypersensitivity to moxifloxacin, other quinolones or excipients; pregnancy; lactation; patients below 18 years of age; history of quinolone related tendon disease/disorder; congenital or documented acquired QT prolongation; electrolyte disturbances; clinically relevant bradycardia or heart failure; previous history of symptomatic arrhythmias; concurrent use with drugs that prolong QT interval; impaired liver function (Child Pugh C); transaminase increase >5 fold ULN. **Warnings/Precautions:** Prolongation of the QT interval: use with caution in patients on concomitant medication that can reduce potassium levels/induce clinically significant bradycardia or with ongoing proarrhythmic conditions (if signs of cardiac arrhythmia develop, stop treatment and perform ECG); use with caution in female and elderly patients who may be more sensitive to the effects of QTc-prolonging drugs; use with caution in patients with CNS disorders which may predispose to seizures or lower the seizure threshold; consult an eye specialist immediately if vision becomes impaired/any effects on the eyes are experienced; risk of tendon inflammation and rupture, particularly in the elderly and those on concurrent treatment with corticosteroids (discontinue and rest affected limb); fulminant hepatitis (potentially leading to life-threatening liver failure) – contact doctor before continuing treatment if signs/symptoms develop i.e rapidly developing asthenia with jaundice, dark urine, bleeding tendency or hepatic encephalopathy; perform liver function tests where indications of liver dysfunction occur; use with caution in patients with a family history of or actual defects in glucose-6 phosphate dehydrogenase activity (risk of haemolytic reaction); risk of antibiotic associated colitis (incl. pseudomembranous colitis); avoid exposure to UV irradiation or extensive and/or strong sunlight; hypersensitivity/ allergic/ana-phylactic reactions (discontinue and treat); caution in elderly patients with renal disorders if unable to maintain adequate liquid intake. May impair ability to drive or operate machinery due to CNS reactions. Moxifloxacin is not recommended for the treatment of MRSA infections. In case of a suspected or confirmed infection due to MRSA, treatment with an appropriate antibacterial agent should be started. **For Solution for Infusion only.** Avoid intra-arterial administration. Infuse cautiously and monitor carefully. Incompatible with sodium chloride 10% and 20% solutions, sodium bicarbonate 4.2% and 8.4% solutions. Efficacy in severe burn infections, fasciitis, major abscesses and diabetic foot infections with osteomyelitis not established. Experience of sequential intravenous/oral moxifloxacin in severe community-acquired pneumonia is limited. Contains 787mg (approximately 34mmol) sodium per dose; take into consideration for patients on a controlled sodium diet. For **Tablets only:** Patients with rare hereditary problems of galactose intolerance, Lapp lactase deficiency or glucose-galactose malabsorption should not take this medicine. Consider risk-benefit ratio in less severe infections. **Interactions:** Additive effect between moxifloxacin and QT prolonging drugs (antiarrhythmics class IA and III, neuroleptics, tricyclic antidepressants, certain antimicrobials, certain antihistamines, cisapride, vincamine IV, bepridil, diphemanil), cannot be excluded. Interactions with digoxin (no precaution required) and glibenclamide (not clinically relevant). May affect anticoagulant activity – care required with concomitant use of warfarin or other anticoagulants. **Tablets:** Leave 5 hours before administering bivalent or trivalent cations (e.g. antacids containing magnesium, aluminium, sucralfate, zinc or iron salts or didanosine). Avoid charcoal (except in overdose). **Undesirable effects:** Most common: nausea, diarrhoea, gastrointestinal/abdominal pain, vomiting, headache, dizziness, QT prolongation in patients with hypokalaemia, increase in transaminases, superinfections due to resistant organisms and, in i.v. treated patients, injection site reactions and increased gamma GT. Less common: disorders of the blood and lymphatic system, allergic reactions including rare cases of anaphylactic shock and allergic oedema/angioedema (potentially life threatening laryngeal oedema), metabolic and nutritional disorders, nervous system and psychiatric disorders, including depression (in very rare cases, culminating in self-endangering behaviour), disorders of the eye, ear, cardiovascular (including ventricular tachyarrhythmias, and very rare cases of Torsades de Pointes and cardiac arrest), respiratory, gastrointestinal disorders including rare cases of pseudomembranous colitis (in very rare cases, associated with life-threatening complications), fulminant hepatitis, potentially leading to life-threatening liver failure (including fatal cases), skin and subcutaneous tissue disorders (including very rare cases of bullous skin reactions like Stevens-Johnson syndrome or toxic epidermal necrolysis, potentially life-threatening); musculoskeletal and connective tissue (including, in very rare cases, exacerbation of symptoms of myasthenia gravis), renal and urinary system disorders, feeling unwell, painful conditions, sweating and oedema. I.V treated patients (with or without initial oral therapy) have a higher incidence of increased gamma GT, ventricular tachyarrhythmias, hypotension, oedema, antibiotic associated colitis incl. pseudomembranous colitis (in very rare cases associated with life threatening complications), seizures including grand mal convulsions, hallucinations, renal impairment/failure. Transient loss of vision, hypernatraemia, hypercalcaemia, haemolysis and photosensitivity have been reported in patients treated with other fluoroquinolones. Since dosage forms, indications or other information may vary from country to country, please consult your local prescribing information. For further information contact the local Bayer Schering Pharma subsidiary or Bayer Schering Pharma AG, BU GM PC GBT Avalox®, 13342 Berlin. **Date of preparation:** July 2009. ® Registered trademark of Bayer AG, Germany

Continued from page 7

Indeed, probiotics have such varied characteristics that they cannot be regarded with a broad brush as in a class of drugs, for example, NSAIDs. The recent clinical practice guidelines on the use of probiotics published by the Nutrition Committee of the North American Society of Pediatric Gastroenterology Hepatology and Nutrition (NASPGHAN) have high-lightened the complexity in the published literature supporting the use of these agents[4]. Table 1 summarizes the conclusions of the working group based on the findings from the better designed, peer-reviewed, published studies.

Probiotics have shown clear efficacy in decreasing the overall duration of **acute gastroenteritis** as well as preventing nosocomial and community-acquired infectious diarrhea.[5] *Lactobacillus GG* and S *boulardii* have specifically shown a significant impact in decreasing **antibiotic associated diarrhea**; a common accompaniment to broad spectrum, especially beta-lactam, antibiotic use.[6]These agents are also useful in ***C. difficile* colitis**. *E. Coli* Nissle has been shown to have equivalent clinical efficacy to mesalazine in **Ulcerative Colitis**[7]

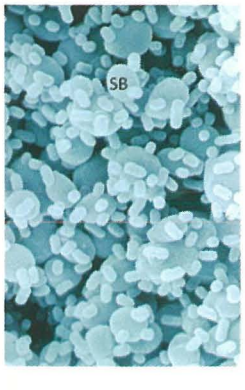

Figure 1: Probiotic Mode of Action. Adherence of *Escherichia coli* serogroup 0H157 and *Salmonella typhimurium* mutant DT 104 to the surface of *Saccharomyces boulardii.*

- *Conditions where probiotics clearly show therapeutic efficacy*

  Mild to moderate acute diarrhea: (treatment shortens duration of illness by 1 day)¥
  Antibiotic Associated Diarrhoea‡
  C. difficile diarrhoea ‡
  Allergy: preventing atopic dermatitis
  Pouchitis

- *Conditions where probiotics may have beneficial effects*

  Ulcerative colitis
  Irritable bowel syndrome
  Necrotizing enterocolitis
  Hepatic encephalopathy

- *Conditions where probiotics have no demonstrable beneficial effects*

  Crohns disease¥
  H. pylori eradication

‡ mainly S. boulardii and Lactobacillus GG
¥ Lactobacillus GG

Figure 2: Use of Probiotics. Evidence obtained from prospective randomised controlled studies

whereas the results in **Crohn's Disease** with this and other agents have been inconclusive[8] and these agents are therefore probably better avoided in this condition given the unclear relationship with small intestinal bacterial overgrowth.

Probiotics have been extensively studied and show conflicting results in **Irritable Bowel Syndrome** in adults and **Functional abdominal pain** in children; however overall clinical benefit seems more likely[9,10] and probiotics are often empirically used in these conditions. In children, probiotics have demonstrable efficacy in decreasing **atopy**, especially eczema.[11] Although there are several additional potential clinical benefits to probiotic use, including other extraintestinal and antitumour effects; these claims are rarely supported by robust clinical trials. Although probiotics and prebiotics have an exceptional safety profile with an extremely low risk of adverse reactions including opportunistic infection (probiotics are contraindicated in immunocompromised patients), the practicing clinician needs to labor toward an evidence-based use of these agents bearing in mind agent, preparation and dose-dependent efficacy.

References:
1. Metchnikoff E. 1907. Essais optimistes. The prolongation of life. Optimistic studies. Translated and edited by P. Chalmers Mitchell. London: Heinemann, 1907.
2. Kollath, W. Ernährung und Zahnsystem. *Deutsche Zahnärztliche Zeitschrift* 1953;8: 7-16.
3. Shah, NP, Lankaputhra WEV, Britz M, *et al.* Survival of L. acidophilus and Bifidobacterium bifidum in commercial yoghurt during refrigerated storage. *Int. Dairy J* 1995; 5:515–21.
4. NASPGHAN Nutrition Report Committee. Clinical Efficacy of Probiotics: Review of the Evidence With Focus on Children: *J Pediatr Gastroenterol Nutr* 2006; 43(4).
5. Allen SJ, Okoko B, Martinez E, *et al.* Probiotics for treating infectious diarrhoea. *Cochrane Database Syst Rev* 2004;CD003048.
6. D'Souza AL, Rajkumar C, Cooke J, *et al.* Probiotics in prevention of antibiotic associated diarrhoea: meta-analysis. *BMJ* 2002,324.1361.
7. Kruis W, Schütz E, Fric P *et al.* Double-blind comparison of an oral Escherichia coli preparation and mesalazine in maintaining remission of ulcerative colitis. *Aliment Pharmacol Ther* 1997;11:853-8.
8. Bousvaros A, Guandalini S, Baldassano RN *et al.* A randomized, double-blind trial of Lactobacillus GG versus placebo in addition to standard maintenance therapy for children with Crohn's disease. *Inflamm Bowel Dis* 2005;11:833-9.
9. Saggioro A. Probiotics in the treatment of irritable bowel syndrome. *J Clin Gastroenterol* 2004;38:S104-6.
10. Nobaek S, Johansson ML, Molin G, *et al.* Alteration of intestinal microflora is associated with reduction in abdominal bloating and pain in patients with irritable bowel syndrome. *Am J Gastroenterol* 2000;95:1231-8.
11. Betsi GI, Papadavid E, Falagas ME. Probiotics for the treatment or prevention of atopic dermatitis: a review of the evidence from randomized controlled trials. *Am J Clin Dermatol* 2008;9(2):93-103.

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Pharma Link

Continued from page 9

The dialogue highlighted pharmacists' professional and organisational issues, specifically, time constraints due to added administrative load, necessary computer software upgrades to a professional tool for more effective clinical interventions, and the maintenance of adequate medicines stock levels.

A meeting was also held in October 2008 with pharmacists piloting the new Web-based Dispensing Pharmacy System (WPDS) which introduced the electronic identification registration (e-id) for verification of pharmacists' interventions in delivering a POYC service to patients. The WPDS has since been fully implemented in the 68 POYC pharmacies.

'POYC is here to stay' - Government

In meetings with the Parliamentary Secretary for Health and the Minister for Social Policy (September and November of 2008), the Government's affirmative position on the envisaged POYC full national rollout was consolidated, but a realistic time frame was not established as this was subject to the proposed review of the social security entitlement legislation and pharmaceutical policy developments.

In this regard, an important meeting was held in December 2008 with the Director-General, Strategy and Sustainability and the Director of the Pharmaceutical Policy and Monitoring Unit to discuss aspects of medicines policy example, access to medicines, including innovative ones. More recently, in October 2009, an important Continuing Professional Development event was held on the updated Government Formulary List [4] addressing Formulary Management, Entitlement Control and Pharmaceutical Policy on Medicines Entitlement, together with the relevant legislative framework. As envisaged, the POYC implementation has spearheaded the reengineering of the National Health Service medicines entitlement and other related policies and protocols, with the final objective being the introduction of a reimbursement system based on an EU model applicable to Malta.

Since February 2009, the POYC Standing Advisory Committee has resumed its regular meetings, addressing the pending issues, the single most significant one being the out–of-stock situation which necessitates a credible and lastingly effective solution. The Government is committed to resolving this matter and the partners have made short and long term recommendations. In this scenario, progress in the national rollout of the POYC is envisaged to proceed to serve up to 50,000 new patients in the next phase.[5]

References

1 - Sant Fournier, MA. Exploring Successful Scenarios for the 'Pharmacy of the Patient's Choice Project': A Foresight Exercise. 2004: Proceedings of the 13th International Social Pharmacy Workshop, 2004 July 19-23 ; Malta: in Pharmacy Education, 2004 Sep-Dec Volume 4, Numbers 3-4: pp. 191-264(74) .2 - Malta Chamber of Pharmacists, Chamber of Small and Medium Enterprises – GRTU Pharmacy section, Government of Malta. Memorandum of Understanding –Pharmacy of Your Choice Scheme and Appendices: 2007 Jul 27: Archives of the Malta Chamber of Pharmacists. 3 - Malta Chamber of Pharmacists, Chamber of Small and Medium Enterprises – GRTU Pharmacy section: 2008 Aug 3; State of the Art of the POYC - document submitted to the Minister for Social Policy. Archives of the Malta Chamber of Pharmacists. 4 Ministry for Social Policy, Directorate for Pharmaceutical policy and Monitoring, Strategy and Sustainability Division: 2009 Sep: Government Formulary List (GFL) - Outpatient List. Available at http://www.sahha.gov.mt/pages.aspx?page=740 5 - Minister for Finance, Economy and Investment Budget Speech: 2009 Available at http://www.budget2009.com.mt

Nutritional Medicine

Continued from page 11

they no longer needed a heart transplant – admittedly anecdotal but is still intriguing data.

The Ornish team also published findings on a larger number of patients with much impaired cardiac output who improved as much as those with less impaired myocardial function when they entered their programme. One patient, a 71-year-old man, a candidate for heart transplant, could hardly walk 20 feet due to breathlessness. He entered Ornish's heart disease reversing programme and followed it religiously. He improved so much that he soon was able to perform a 4mile heart walk, and even went back to work. Follow-up reports confirmed that 15 years after starting the programme, he still doesn't get dyspneaic. A PET scan revealed his myocardium had significantly regenerated and had increased blood flow after one year on the programme. An echocardiogram confirmed much improved ventricular function and he no longer needed a heart transplant!

The Ornish team additionally studied 40 patients many of whom were on the way to needing a heart transplant. All were eligible for surgery (bypass or angioplasty). They compared 27 patients who chose their programme with 13 patients who underwent surgery – the two groups were comparable in age, disease severity and cardiac function. After 3 months, there were 6 cardiac events in the 13 operated patients (46%) compared with only one cardiac event in the lifestyle-change group of 27 (4%) – 10 times fewer cardiac events in the lifestyle-change group. After 3 years, 96% of patients in the lifestyle-change group were still alive, and only 3 had undergone surgery. In the surgical group, only 77% were still alive. These differences were all statistically significant. Even very sick cardiac patients were therefore able to safely avoid bypass surgery or angioplasty and, if anything, did better than those operated on. Ornish admits this is a small patient sample without a randomised control group, but is encouraged by the differences.

References

1-Katritis DG *et al*. Percutaneous coronary intervention versus conservative therapy in non-acute coronary artery disease: A meta-analysis. *Circulation* 2005; 111:2906-12. 2-Boden WE *et al*. Optimal medical therapy with or without PCI for stable coronary disease. *N Engl J Med* 2007; 356 (15): 1503-16. 3-Hambrecht RC *et al*. Percutaneous coronary angioplasty compared with exercise training in patients with stable coronary artery disease: a randomized trial. *Circulation* 2004; 109 (11):1371-8. 4-Pitt B *et al*. Aggressive lipid-lowering therapy compared with angioplasty in stable coronary artery disease: Atorvastatin versus Revascularisation Treatment Investigators. *N Engl J Med* 1999; 341(2):70-6.

Bibliography

Elliot-Eller M *et al*. Clinical events in heart disease patients with low left ventricular ejection fraction: 3 years follow-up results. Abstract presented at the International Academy of Cardiology, 3rd World Congress on Heart Disease, Washington DC, 2003.

Pischke CR et al. Lifestyle changes and clinical profile in coronary heart disease patients with an ejection fraction of ≤40 percent or >40 percent in the Multicenter Lifestyle Demonstration Project. *Eur J Heart Fail* 2007; 9(9): 928-34.

Panoramic Malta & Gozo

Daniel Cilia

Panoramic Malta & Gozo contains more than 130 stupendous scenes with a 180-degree angle of view. All the photographs in the book are actual panoramas, with many pull-out pages reaching more than one metre in length. Readers of this book can enjoy original scenic views of Malta and Gozo, and each image, especially in the oversized pages, evokes the sensation of being present with the photographer as the picture was being captured.

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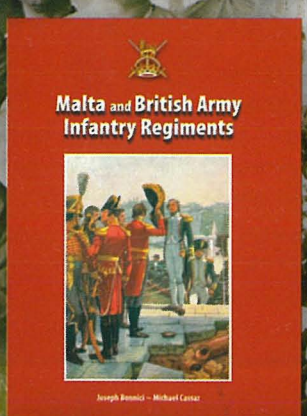
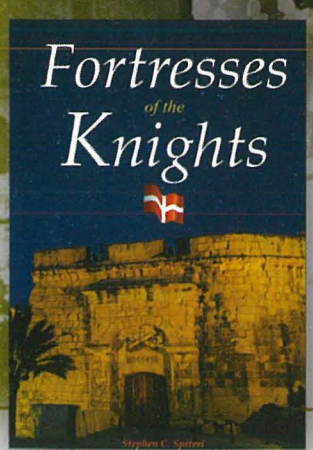


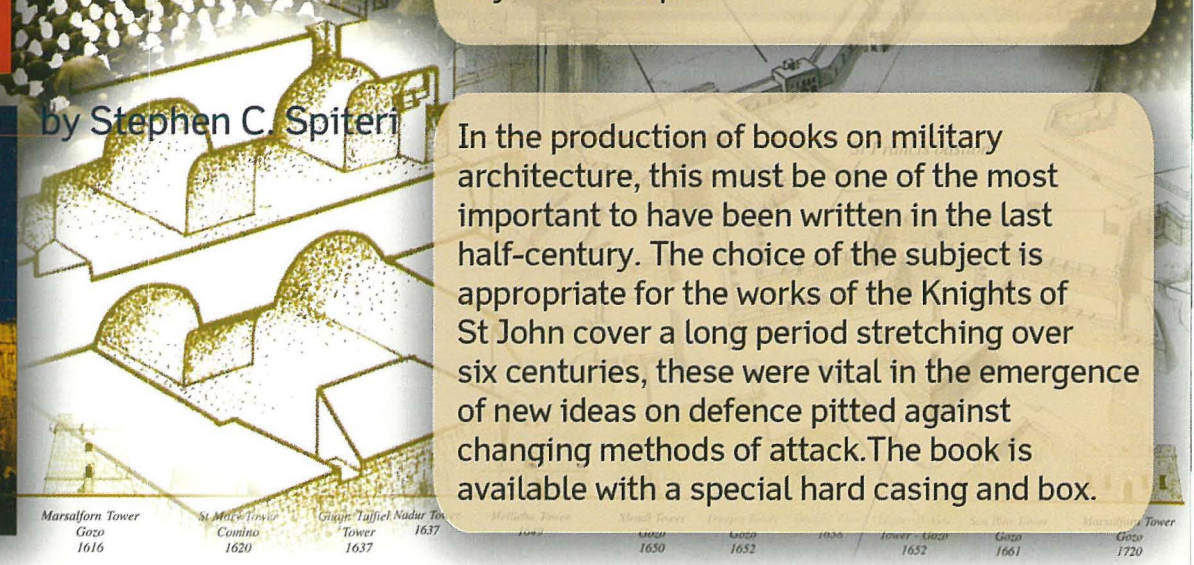
by Joseph Bonnici, Michael Cassar

This book explores the fascinating dual world of British Army Infantry regiments in Malta. While the Maltese were no strangers to foreign occupation, the British garrison was the largest ever and it endured for several decades until the end of the military base. Such a small island yet so important an adjunct of Empire.



by Stephen C. Spiteri

In the production of books on military architecture, this must be one of the most important to have been written in the last half-century. The choice of the subject is appropriate for the works of the Knights of St John cover a long period stretching over six centuries, these were vital in the emergence of new ideas on defence pitted against changing methods of attack.The book is available with a special hard casing and box.



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Imaging Diffuse Liver Disease – Part II

by Pierre Vassallo

CT scan protocols for the liver may be classified single-, dual- or triple-phase techniques. An initial non-contrast enhanced scan is obtained with all three techniques. In the case of a single phase technique, the nonenhanced scan is followed by a scan in the portal venous phase (40 seconds after the peak aortic enhancement). In the dual-phase technique, scans are obtained in the late hepatic arterial phase (20 seconds after peak aortic enhancement) and in the portal venous phase. In the triple-phase technique, late arterial and late portal venous scans are followed by a hepatic venous phase scan (60 seconds after peak aortic enhancement).

Single phase scans are practical when whole body scans are required usually for cancer staging. Single phase scans acquire images of the liver prior to contrast injection and during the portal venous phase (ie 40 seconds after peak aortic enhancement) (Figure 1).

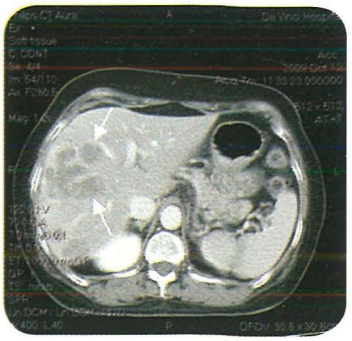


Figure 1
Part of a whole body scan to stage colon cancer, liver metastases are present (arrows).

Dual phase scans are performed in cases with a known or suspected hypervascular primary neoplasm outside the liver for which hypervascular hepatic metastases are suspected. Confirmed or suspected diagnoses of breast carcinoma, renal cell carcinoma, melanoma, neuroendocrine tumors, and thyroid carcinoma would call for the dual-phase hepatic imaging protocol (Figure 2).

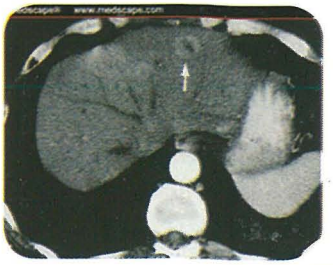


Figure 2
Dual phase scanning allows better demonstration of hypervascular metastasis (arrow).

Triple phase scans are used in cases of known or suspected cirrhosis or hepatocellular carcinoma as well as suspected benign primary liver lesions such as focal nodular hyperplasia or hepatic adenoma. A further delayed phase performed 10–15 minutes after peak aortic enhancement; this will demonstrate the pathophysiologic phenomenon of delayed contrast agent washin and washout that occurs in these lesions allowing them to appear denser than normal liver parenchyma during this phase (Figure 3).

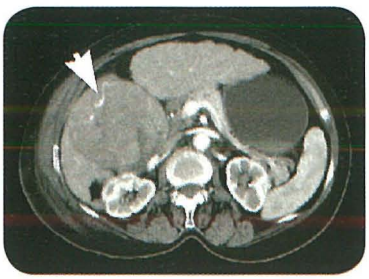


Figure 3
Primary hepatic tumors demonstrate delayed washout (arrow) on this delayed phase image from a triple phase scan.

The most common indication for liver CT is to exclude, confirm or monitor hepatic metastatic disease; single and in some cases dual phase scans are adequate for such cases. Triple phase scans are reserved for particular cases where information about a primary hepatic lesion or diffuse liver disease is required. Below I will discuss some of the more common indications of a triple phase CT scan.

Storage Diseases

Hepatic steatosis represents the excessive accumulation of triglycerides within the hepatocytes, a phenomenon that can affect hepatic parenchyma focally or diffusely. At the hepatocellular level, three underlying pathophysiologic phenomena have been identified that contribute to fatty infiltration of hepatic parenchyma: decreased mitochondrial fatty acid beta-oxidation, increased endogenous fatty acid synthesis or enhanced alimentary delivery of fatty acids leading to hypertriglyceridemia, and deficient incorporation or export of lipoproteins. Fatty liver disease can cover a severity spectrum ranging from dormant noninflammatory fatty liver, to steatohepatitis with inflammation, fibrosis, and eventually cirrhosis.

All severities of fatty liver disease can be associated with the use of alcohol. In the absence of alcohol consumption, nonalcoholic fatty liver disease is most commonly associated with obesity, type 2 diabetes mellitus, and dyslipidemia. It can also manifest as an aggressive subtype characterized by hepatocyte ballooning and necrosis, with and without Mallory hyaline and fibrosis, called nonalcoholic steatohepatitis

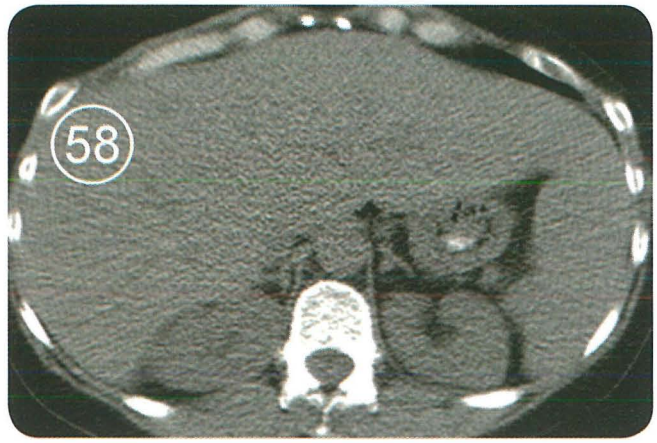


Figure 4a

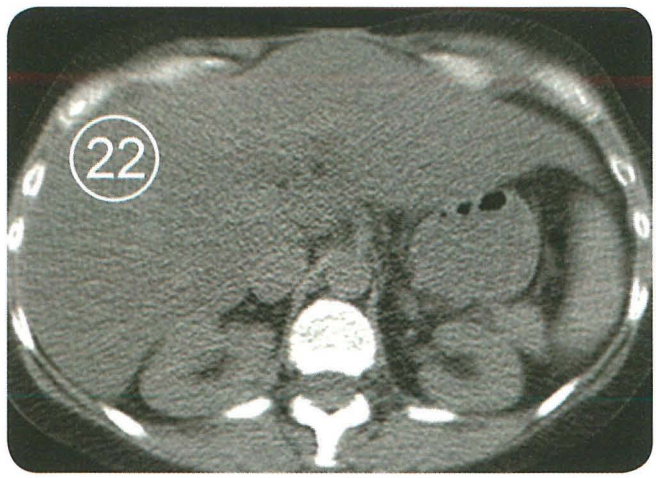


Figure 4b

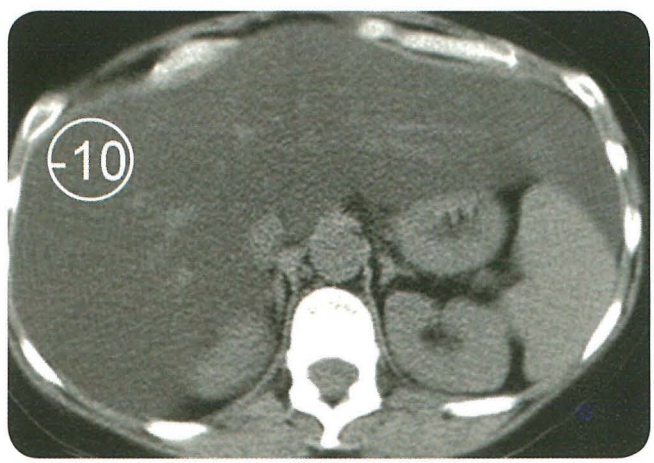


Figure 4c

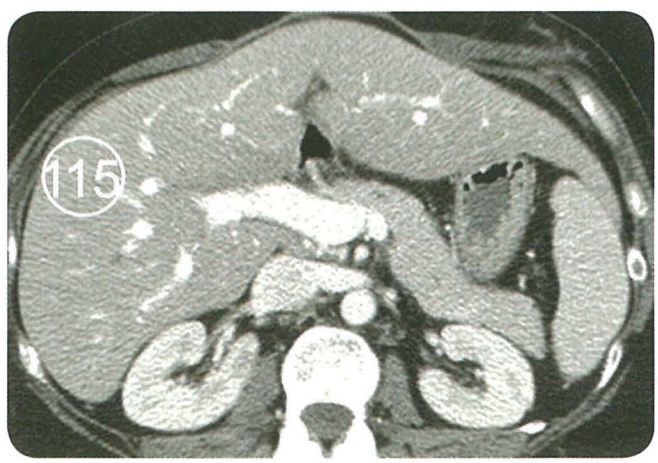


Figure 4d

Figure 4
Fatty infiltration of the liver parenchyma in a 46-year-old woman with ovarian cancer who was undergoing chemotherapy. Sequential nonenhanced (a–c) and portal venous perfusion phase contrast material–enhanced (d–f) CT scans obtained at 3-month intervals show a progressive decrease in hepatic attenuation. Circle = region of density measurement, number = attenuation in Hounsfield units.

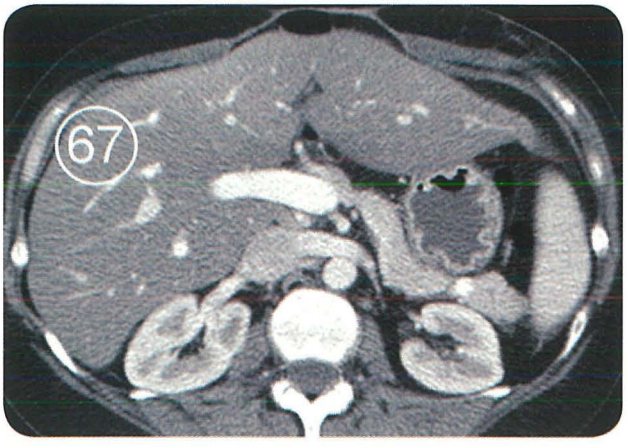


Figure 4e

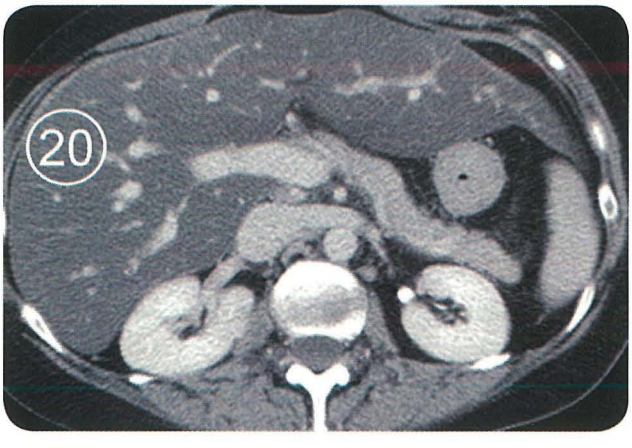


Figure 4f

(NASH). Several other clinical disorders and scenarios including malnutrition, severe hepatitis, corticosteroid use, pregnancy, drug toxic effects, malaria, kwashiorkor, Reye syndrome, and chemotherapy also lead to fatty liver disease (Figure 4).

At unenhanced hepatic CT, fatty infiltration results in a lowering of the attenuation of the liver parenchyma. In normal adults, the attenuation value of the liver is consistently higher than that of the spleen. Mild degrees of diffuse fatty infiltration can be diagnosed when the attenuation value of the liver parenchyma is slightly less than that of the spleen; marked steatosis hepatis leads to attenuation levels lower than that of the intrahepatic blood vessels. Contrast enhanced CT scans are less reliable in detecting fatty infiltration of the liver. After contrast material administration, significant fatty infiltration can be suggested if the liver attenuation is less than that of muscle.

Wilson's disease is an autosomal recessive disease characterized by increased intestinal uptake of copper and subsequent deposition, predominantly in the liver and basal ganglia. Wilson's disease can manifest as acute and even fulminant hepatitis with rapid progression into mostly macronodular-type cirrhosis. Clinically, patients present with very low levels of ceruloplasmin. Rarely malignant transformation into hepatocellular carcinoma may occur.

Hepatic CT may demonstrate nonspecific increased liver parenchymal density related to the copper deposition (Figure 5). However, Wilson's disease may also be accompanied by diffuse fatty infiltration, which decreases the attenuation at hepatic CT. Clinical correlation and rarely ultrasound guided liver biopsy may be required for confirmation in these cases.

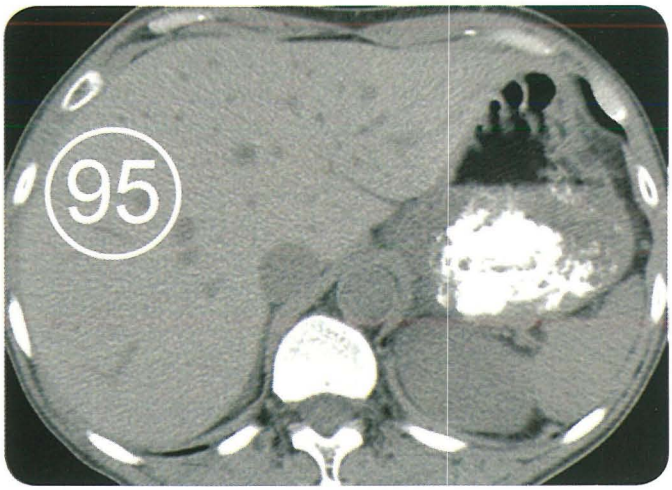
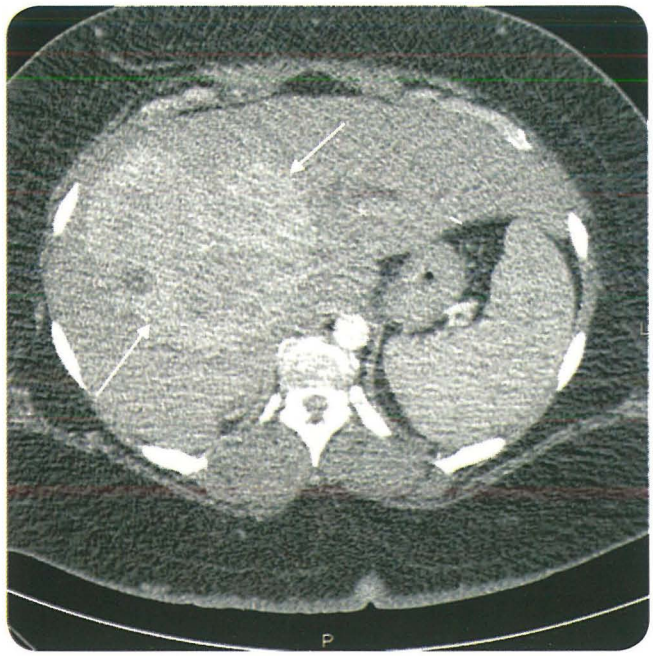


Figure 5
Histologically proved Wilson disease in a 41-year-old man. Nonenhanced CT scan shows increased attenuation of the hepatic parenchyma.

All known variants of identified glycogen storage diseases are inherited autosomal recessive disorders and are characterized by absence or deficiency of one of the enzymes responsible for producing or metabolizing glycogen. Different enzyme deficiencies cause either abnormal concentrations of glycogen or abnormally formed glycogen. Different subtypes of glycogen storage disease involve the liver, musculature, haematopoietic system, myocardium, and kidneys. Types Ia (von Gierke), Ib, II (Pompe), III (Forbes), IV (Anderson), VI, and IX have the cardinal symptom of hepatomegaly.

Types Ia and Ib have the potential to undergo malignant transformation to form hepatocellular carcinomas, whereas types III and IV progress to development of cirrhosis. In types Ia, Ib, and III, an increased prevalence of hepatic adenomas has been observed (Figure 6).
In all children in whom hepatomegaly in combination with hypoglycemia, growth retardation, and disproportional distribution of body fat is detected, the diagnosis of glycogen storage disease should be considered.

Figure 6
Hepatic adenoma (arrows) in type 1a (von Gierke) glycogen storage disease.



Lipid storage diseases represent a diverse family of diseases that result from an enzymatic deficiency of a lysosomal hydrolase. This leads to lysosomal accumulation of sphingolipids. Sphingolipid substrate storage in visceral cells can lead to organomegaly. However, the main target organ is the central nervous system, the feature responsible for the predominantly neurodegenerative course of lipid storage diseases. Numerous subtypes of lipid storage diseases have been identified that are classified according which enzyme is deficient: GM1 and GM2 gangliosidosis, Gaucher disease, Niemann- Pick disease, Fabry disease, Schindler disease to name a few. Most of these diseases may manifest as an enlarged liver due to lipid and cholesterol deposition, leading to cirrhosis and chronic liver failure before adulthood). CT imaging of the liver shows hepatomegaly with accompanying steatosis hepatis as nonspecific imaging findings (Figure 7). Deficient activity of the enzymes regulating the catabolism of glucosamine glycans leads to the accumulation of excess mucopolysaccharides in tissues, as well as excretion of specific metabolites in the urine. The more common mucopolysaccharidoses including type I (Hurler), type II (Hunter), type III (San Filippo), type VI (Maroteaux-Lamy), type VIIb all have hepatic manifestations. At pathomorphologic analysis, hepatomegaly, diffuse fibrosis and a micronodular cirrhotic pattern can be observed. CT imaging of the liver shows cirrhotic changes as a nonspecific imaging finding.

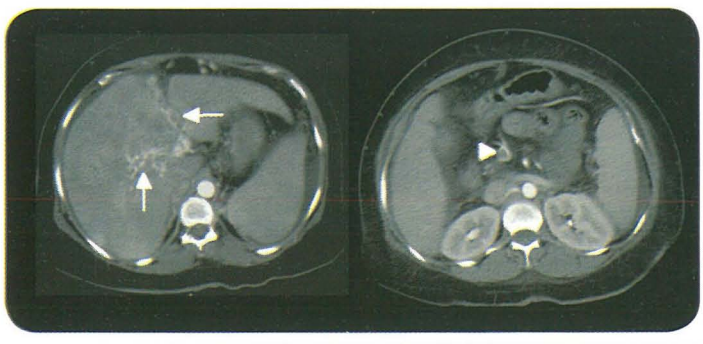


Figure 7 Niemann-Pick disease in an 11-year-old girl. Portal venous phase image shows hepatomegaly and splenomegaly.

"Wine is to the parched mind of man what water is to the sun-drenched plain. It releases the brakes of his self-consciousness and softens the hard-baked crust of dust so that the seeds below may send forth sweet flowers" André Simon (1877-1970)

Grape Expectations

by Albert Cilia-Vincenti

If climate and latitude alone determined ideal places for vine growth, life would be so much simpler for making great wine. Weather, however, is only one of many factors that determine wine quality and style

Old established European vineyards were not planted after close analysis of the weather or the soil. If they turned out to produce great wine, people tried to work out why. It's been a long road of discovery, and we're not at the end of it yet.

Winemakers have studied Burgundy's Côte d'Or for years, but still don't know precisely what it is about this little stretch of French vineyard that makes such marvellous Pinot Noir and Chardonnay. And if people can't agree on that, it's not surprising that they also can't agree on what Côte d'Or attributes one should imitate to make great Pinot Noir elsewhere. Should you find somewhere with similar climate to Burgundy, or is that climate in fact a disadvantage? If the latter is so, somewhere warmer and drier might be better. Should you try copying the soil and, if so, should you be looking at its structure, its mineral content, or what?

Soil is under intense study by winemakers worldwide, even in the New World where they used to be much more interested in climate. Climate is vital, but Australian winemakers are now saying that the greatest advances in quality will come from greater understanding of the soil.

Terroir is still a poorly understood concept – it does not only mean 'soil', but includes its geology, climate, topology, its water-retaining ability, the amount of sun it receives, and the effect of man. Both topsoil and subsoil are important, as is the mineral content. How fertile or infertile it is, and its depth and structure, affecting drainage, are also factors. Altitude, steepness of slope and exposure to the sun all matter, as does the microclimate – climate particular to that vineyard. From the French point of view, it is the terroir that makes each vineyard different, and it underpins the Appellation Contrôlée system.

Climate is given more attention by many winegrowers than to any other factor. Even the most dedicated terroiriste is likely to blame the weather rather than the terroir when his vines are hit by spring frost. Rain or high winds during flowering, drought in late summer halting ripening, summer rain encouraging rot on grapes, rain at harvest that dilutes the grape juice, hail at any time, are all climatic hazards to the grower. As far as quality is concerned, it is the last couple of months before the harvest that really matter.

There is no absolute definition of cool, warm or hot climate for viticulture. A cool climate usually means one where only early-ripening grape varieties will ripen, such as Pinot Noir, Riesling, Chardonnay or Gewürztraminer. An intermediate climate will ripen later ripening varieties like Merlot, Cabernet sauvignon and Syrah. In warm climates you get very late-ripening grapes like Mourvèdre, Grenache and Touriga Nacional. Carneros in California, New Zealand's South Island, Burgundy and Germany come under the cool climate heading. Bordeaux, Tuscany, California's Napa Valley, Chile's Maipo and Australia's Coonawarra are intermediate. On the other hand the south of France, Portugal's Douro Valley, and Australia's McLaren Vale are warm.

Draft Guide for Research Ethics Committee

The Steering Committee on Bioethics (CDBI) of the Council of Europe has made public for consultation a Draft Guide for Research Ethics Committees.
This document is intended to be used as a tool for research ethics committees.
Research ethics committees (RECs) are multidisciplinary, independent groups of individuals appointed to review biomedical research proposals involving human beings to help ensure in particular that the dignity, fundamental rights, safety and well-being of prospective research participants are respected and safeguarded. They must also be satisfied about the scientific quality of the research proposal and its conformity with legislation. RECs have a central role in the research process as they help to ensure that research is soundly based and trustworthy and thus contribute to improve healthcare.
To assist RECs in fulfilling this important function, this guide is designed to highlight from a European perspective the key ethical issues that they are likely to face when they evaluate research proposals involving human beings. Specific ethical issues of persons not able to consent, research in specific situations, transnational research and biological materials of human origin are dealt with in detail.
The guide highlights the ethical principles that form the basis of the European instruments covering biomedical research and outlines how these ethical principles and those deriving from them are applied in practice. Of particular relevance is the principle of 'primacy of the human being' since in accordance to this principle the interests and wellbeing of the research participants must prevail over the sole interest of science and society.
The concern to protect research participants and the international dimension of research has prompted the development of various standard-setting instruments. The guide goes into the legal aspects and lists the legally binding instruments and other non-legally binding but generally accepted guidance at European and International level.
The guide elaborates on the roles and responsibilities of RECs before, during and after a research project is authorised and conducted and the results evaluated and reported. It indicates operational procedures as a basis on which RECs can develop their own organisational methods.

Bioethics Consultative Committee

The Bioethics Consultative Committee (BCC), is a multidisciplinary body established in 1989 with terms of reference "to consider the ethical aspects and implications of all matters related to the practice of medical and allied professions, and bio-technological procedures that may be applied to human life in all its phases". Among its functions the BCC tenders advice to the Minister of Social Policy on such matters. Over the years the BCC has taken on the role of highlighting issues related to ethical practices and to increase awareness of such issues among healthcare professionals.

The Bioethics Consultative Committee (BCC) has been invited to conduct the public consultation on the Draft Guide for Research Ethics Committees at national level. Comments on the Draft Guide for Research Ethics Committees (accessible on http://www.thesynapse.net/articles/viewarticle.asp?artid=11692) are to be sent to Ms Bertha Darmanin (e-mail bertha.darmanin@um.edu.mt) or to Ms Mary Anne Ciappara, (email maryanne@maltanet.net) by Monday 24th February 2010.