NEWSPAPER POST

TheSynapse

The Medical Professionals' Network | *www.thesynapse.net* | **Sept 2001**

Dr. Wilfred Galea MD
Editor

As you will see from one of the articles it was really difficult to pack in a large number of very interesting articles. In spite of regrettably having to ask authors to limit the length of the articles, thing still would not fit. So back to the drawing board it was decided to take the plunge and double the size of the magazine. Why? Well we received such a positive feedback that filled us with great motivation to give you more.

Thank you readers, thank you contributors, thank you advertisers.

CUTTING EDGE

WOMEN'S IMAGING

Conditions mimicking breast cancer.

by **Dr. Pierre Vassallo**
MD, PHD FACA ARZT FÜR RADIOLOGIE

In the last issue, I presented the most common non-cancerous breast lumps and the diagnostic tools required to detect them and confirm their nature. However, there are other conditions affecting the breast, which are not detected as a lump by the examining hand, and may resemble cancer on mammography.

With the introduction of breast screening with mammography, breast cancer could be detected at a much earlier stage allowing early treatment with a better results. Mammography screening has been shown to reduce mortality rate from breast cancer by 30-40%. Screening mammography achieves this goal by detecting cancer before it is large enough to be felt on hand examination.

There are a number of conditions detected by mammography, which closely resemble cancer. Biopsy guided by mammography or ultrasound is usually required to correctly diagnose these conditions. In many of these cases, even surgical removal may be necessary to confirm the absence of cancer.

The most common condition resembling breast cancer is the Radial Scar (sometimes called a Complex

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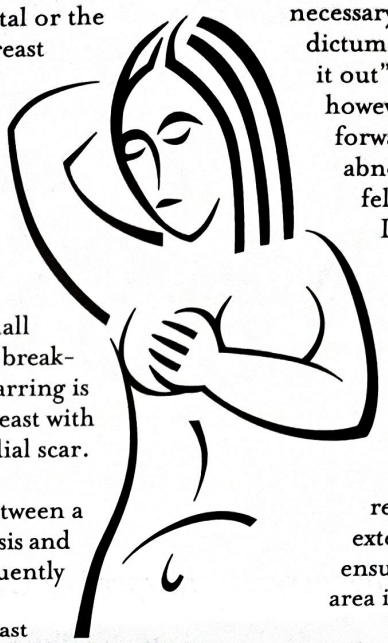
Sclerosing Lesion). Radial scars are most commonly found in women between the ages of 40 and 60 years and frequently present at multiple locations simultaneously in both breasts. Radial scars are part of the spectrum of fibrocystic change, a condition described in the previous article. On mammography, radial scars are poorly defined with a star-like appearance very similar to cancer. The reason for this similarity is that both radial scar and cancer cause similar distortion of breast texture. The breast tissues are pulled towards a central point creating a star-like effect. In breast cancer, that central point contains cancer cells, whereas in the radial scar only a scar is present.

Another condition that may resemble breast cancer is Fat Necrosis. Unlike the radial scar, fat necrosis is the result of trauma to the breast, which may be accidental or the result of a previous breast operation. However, trauma may often be minimal and the episode not even remembered. Trauma causes release of fat from fat cells, which if contained within a small area forms a fat cyst. If break-down of fat occurs, scarring is induced within the breast with results similar to a radial scar.



The distinction between a radial scar or fat necrosis and a breast cancer is frequently not possible on mammography or breast ultrasound. Correlation with old mammograms and needle biopsy may help to exclude cancer, but surgical removal is frequently necessary - hence the old dictum "when in doubt, take it out". Surgical removal however, is not straight forward, as most of the abnormality cannot be felt. Guide Wire Localisation done under mammography or ultrasound, is a technique employed by radiologists to mark the suspected area and facilitate removal. This avoids extensive surgery, and ensures that the correct area is sampled.

In the next article, non-cancerous breast conditions affecting younger women and their treatment will be discussed.

CLINICAL PHARMACOLOGY

When are inhaled long acting ß2 agonists indicated in the management of asthma?

by **Dr. Maria Cordina**
B.PHARM (HONS) PHD. (QUB)

Formoterol and salmeterol are both long-acting ß2 agonists with a duration of effect of at least 12 hours. These drugs have been developed to make up for the short coming of the short-acting ß2 agonists salbutamol and terbutaline in being unable to control those patients who present with night time symptoms such as dyspnoea and early morning wheeze. Formoterol and salmeterol are both potent, efficacious long acting bronchodilators. The most important difference between these drugs is their onset of action. While salmeterol has a slow onset of action, formoterol has a rapid onset of action, comparable to that of salbutamol, making it suitable for use on an as needed basis.

The most important difference between these drugs is their onset of action.

Current guidelines recommend the use of long-acting ß2 agonists in step 3 i.e. for patients presenting with daily with symptoms and use of inhaled short acting ß2 agonists, with exacerbations which affect their activity twice or more per week and may last for days and night time symptoms more than once a week. The FEV1 or PEF of these patients is usually < 60% of their predicted value. In order to maintain control of asthma, especially for nocturnal symptoms, it is considered preferable to add a long-acting to a low to medium dose of inhaled glucocorticoids rather than using a higher dose of inhaled glucocorticoids.

Long-acting ß2 agonists have an important role to play in the management of asthma due to their steroid sparing effect and control of nocturnal symptoms.

The Clinical Applications of Multi~Slice Spiral CT

Recently, Saint James Hospital installed a state of the art Siemens Multi Slice Spiral CT Scanner.

Spiral CT greatly increases the speed of CT data acquisition by imaging continuously during patient transport through the scanner gantry. Faster data acquisition allows faster administration of contrast media, which dramatically improves contrast enhancement. Multislice spiral CT allows large volumes of data to be acquired during a single breath-hold, which reduces artefacts. Overlapping slice reconstructions can be performed without increasing patient dose, thus improving the quality of multiplanar reformatted images. Three-dimensional image reconstruction became practical with faster data acquisition. The increased speed can be traded, if desired, for improved longitudinal resolution, increased volume of coverage, or improved image quality.

The Multi Slice Spiral CT allows the radiologist to perform a much wider variety of examinations which were not previously possible. Clinical applications of Multislice Spiral CT include imaging young children who cannot lie still, patients who have difficulty suspending respiration, uncooperative subjects, and trauma victims. It is also useful in detecting cerebral aneurysms and carotid stenosis, as well as evaluation of renal artery disease in hypertensive patients and evaluation of the aorta. Multi Slice Spiral CT can diagnose pulmonary embolism with high accuracy, provided that the exam uses thin slices (3mm) and is performed quickly during suspended respiration.

Clinical applications of Multislice Spiral CT include imaging young children who cannot lie still

Other clinical applications include evaluation of coronary vessels in heart disease, evaluation of the liver, virtual colonoscopy, evaluation of musculo-skeletal pathology and CT urography. Recently, Saint James Hospital installed a state of the art Spiral Multi Slice Siemens CT Scanner. The Saint James Hospital's Multi Slice Spiral CT is further equipped with full non-invasive angiography packages and cardiac screening software package. This scanner truly completes the departmentís comprehensive set up which now includes a Gamma Camera, MRI, Multi Slice CT, Mammography with Stereotactic Biopsy, Digital Flouroscopy System and 3D Ultra-sound machines.

Foreign trained and qualified radiologists, experienced in MRI, Multi Slice CT Scanning and USS Imaging have recently joined the radiology unit at St James Hospital.

For any further information on the Multi Slice CT examinations and booking please call the hospital's main reception on 693296 or 677974.

One of our doctors, radiographers and radiologists will be very happy to provide you with any information or help you may require.

CLINICAL MICROBIOLOGY

Severe Infections Caused by Streptococcus Pyogenes

by **Dr. Christopher Barbara**
MD, MSC (MED. MICRO.[LOND.]), D.L.S.H.T.M.

Over the last few months, an increased number of severe invasive infections, leading to various conditions such as pyoderma, septicaemia, toxic shock syndrome, or necrotising fasciitis, have been noted. Bacteriological cultures in these cases yielded large mucoid colonies, which suggested that we might be dealing with a strain with a high index of virulence. These organisms were identified as Streptococcus pyogenes (Group A Streptococcus or GAS) and the strains were sent to a Streptococcal Reference Laboratory for typing. There were found to be M6 ,T6 although in a number of cases the T protein was non typeable due to auto agglutination.

These severe Group A streptococcal infections may occur in healthy individuals who show no underlying risk factors and usually start as a pharyngitis or a cellulitis following minor trauma. Those with greatest underlying risk factors include obviously the immunosuppressed, burns patients, children with chickenpox, intravenous drug abusers or patients on chemotherapy.

Although we are familiar with the pharyngitis and cellulitis produced by GAS as well as possible sequelae such as glomerulonephritis and rheumatic fever we have to keep in mind the possibility of a highly virulent strain of GAS which may rapidly lead to sepsis, causing systemic illness with high fever, shock, disseminated intravascular coagulation, multisystem organ failure and death. Hence early recognition of the condition and early treatment are essential. Basic investigations should include a blood count and differential, a urinalysis as well as swabs from wounds or pharynx and blood cultures. Antibiotics of choice depend on the severity of infection, allergy and the patient's setting and these include beta lactam penicillins, amoxicillin, 1st and 2nd generation cephalosporins, macrolides, clindamicin, levofloxacin and or glycopeptides.

Today over 80 different variants of GAS each producing its own unique protein s have been noted. The National Institute of Allergy and Infectious Diseases (NIAID) are supporting research for the development of an effective GAS vaccine which may not only prevent Streptococcal pharyngitis and impetigo, possible sequelae like rhematic fever but also these more serious invasive infections. In the meantime we are obliged to have a high index of suspicion to enable early administration of treatment and eradicate the infection before it's too late. ◻

ORTHOPAEDICS

Lifetime Guarantee

by **Mr. Ray Gatt** MD, FRCS

Arguably, the integrity of a synovial joint hinges on a functioning articular cartilage surface. Erode the latter, and a previously well-functioning joint becomes a dysfunctional painful liability. Articular cartilage consists of hyaline cartilage. The word hyalin derives from the greek word hyalos, which means glass. Hyalin cartilage consists of a grisly mass of firm consistency, bluish colour, and considerable elasticity.

Articular cartilage is an example of functional efficiency. The lubrication efficiency is of a superior magnitude to the best lubrication mechanisms known in modern engineering. Additionally, the functional efficiency is maintained throughout life in most humans. This is remarkable, considering that cartilage is only a few millimetres thick and has limited repair capabilities. There is a gradual decrease in material characteristics with age. When a joint becomes osteoarthritic, apart from changes in the relative content of collagen and proteoglycan, there are also chaotic changes in the collagen ultrastructure and the proteoglycan organization.

Repair of this precious structure is limited and harvesting it from tissue cultures is in the realm of research and experimentation. Capping a worn out joint with high grade stainless steel and polyethylene is nowhere near reproducing, say for example, the friction coefficient of articular cartilage and is progress much reminiscent of certain members of the crustaceans. A new technique that we have started utilizing at Guardamangia comes with the eponymous name (much loved by modern-minded orthopaedists) of Mosaicplasty; this represents a method of autogenous osteochondral transplantation for the treatment of focal cartilaginous defects. If this procedure can be done for focal defects, could the result be extrapolated to include total coverage of denuded bone ends? Covering old gnarled bone ends with supple fresh cartilage; now that would solve the problem of ageing joints! ◻

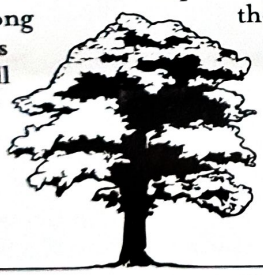
Do As I Say. Don't Do As I Do.

by **Mr. Mark Hogg**
HOGG CAPITAL INVESTMENTS LTD.

The Editor has forthwith limited my contribution to a mere 300 words. He explained it had something to do with doctors and limited attention spans! Given the often contrived way we investment practitioners speak and write, this really is a tall order. That's already 43 words covered and I haven't even begun to write about this month's subject!

Adopting the broadest of generalizations, I have decided to list what I consider to be my cardinal rules for investing. I have done this by highlighting some of my observations about the investment market. The above title, however, depicts the reality that, although I continuously preach the perceived wisdom to my investing clients I rarely heed these gems when it comes to my own personal portfolio. Hence the tech wreck that it presently comprises. So here goes:

The market will do the exact opposite of what you, along with most other investors expect it to do. And it will *do so almost immediately after you have made your investment. In other words, your investments should have a reasonable time horizon - invariably the longer the better. Time may be perceived to mitigate risk, but it will not do so all of the time.*



HOGG CAPITAL

Investments that may look right to buy at the time may prove to be dogs in the future. This may reflect any number of factors from changing consumer tastes, to advances in technology, and so on. So don't ever bet on the outcome of a single investment. Spread your investments across different securities and, importantly, across different types of securities.

Seek an investment balance between risk and cash-flow. Yes, this is a bit different from the long accepted balance between risk and reward. However, as you will agree, risk is risk, and whether it is characterised by your adviser as low, medium or high, it is still risk and can lose your money. The cash-flow component of an investment portfolio may be viewed as an investor's panacea and be utilized variously for the (hopeful) underlying benefit of the investment portfolio through reinvestment or alternatively used elsewhere, possibly even as retail therapy.

Finally, and I have already overshot the 300 word limit by sixty-eight words (!), never ever be in a rush to invest your funds. Remember, the chances of you or I making a quick buck out of the market are remote. In the meantime, you have the responsibility of creating and nurturing an investment portfolio that will be of service to you for many years to come, and well into your retirement. In my opinion, this process requires your state of mind to be both at ease and suitably motivated with the undertaking. Ergo, it should be enjoyable. After all, most of us tend to avoid doing things we don't like doing, so why should investment be any different? ◻

TheSynapse is proud to be associated with Hogg Capital Investments Ltd. www.thesynapse.net.net/moneymatters

SAFE AT WORK

Sedqa's mission is to promote the identification, prevention, and effective treatment of alcohol and other drug use problems in Maltese society through research, education, training, policy formulation and therapeutic interventions.

As the National Agency Against Drug & Alcohol Abuse, sedqa offers local companies training and up-dates on substance misuse and their impact on various social issues, with special emphasis on the workplace. The type of intervention offered is tailor-made to the particular needs of the respective enterprise requesting our programme. These vary from exhibiting preventive material; holding meetings with different levels of management; and also offering individual contact by professionals working in the field of addiction; group work and the delivery of talks on topics related to substance misuse.

The agency also help in the formulation of policies and procedures about the use of alcohol and other substances at the workplace.

SAFE programme covers the following interventions:

Phase 1
Awareness through distribution of material and exposition of work-related display.

Phase 2
Discussion meetings with employees at the place of work. During such meetings the effects of drug and alcohol abuse are presented and discussed. Employees are also informed about the various help-services available in the country.

Phase 3
Meetings with middle and senior management are also facilitated by the Agency. Social and legal implications of the process of addiction is discussed along with the services available and the right procedure recommended with workers who are willing to undergo professional treatment and care in the field of addiction. Issues such as confidentiality, symptoms of drugs, types of drugs available in the market, and resources available are on these meetings' agenda.

The agency also help in the formulation of policies and procedures about the use of alcohol and other substances at the workplace. Such policies are normally negotiated with the employers and the employees' representatives at the respective workplace.

Finally, the agency also offers confidential on-going support to both the management and the employees of the enterprise where the S.A.F.E. Programme would have been executed.

Tel: 244226
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sedqa

Offers help through the S.A.F.E Programme at the place of work:
email us on sedqa@sedqa.org.mt

Contraception in Perimenopause

by **Mr. John Mamo**
CONSULTANT GYNAECOLOGIST

As a woman approaches menopause, she needs to discuss the best method of contraception that suits her best at this particularly difficult stage in their lives. Contraception needs to be continued for one year after her last menstrual period if she is over 50 years of age or for two years if she is younger.

Natural family planning methods has obvious advantages for those who can accept the modifications of sexual behaviour that a fertile period imposes on the couple. But for women approaching menopause temperature charts and changes in cervical mucus may become difficult to interpret.

Non-hormonal contraception include barrier contraceptives, sterilisation and the intrauterine device. The IUD may be left in situ for one year after menopause but prolonged heavy bleeding are common problems which may contraindicate the use of the IUD. The use of condoms as a barrier method of contraception still remains the most popular method of contraception with very rare contraindications such as latex allergy and psychosexual problems. Despite the effectiveness of the diaphragm it is not as popular now probably due to more availability of methods requiring less premeditation.

Female sterilisation may be performed laparoscopically as a day case. This method is particularly suited for a woman in the latter part of her reproductive life as she is less likely to request reversal. Careful counselling is also important prior to vasectomy. Male sterilisation is done as an outpatient procedure under local anaesthesia. Vasectomy is a safe, easy and effective method and involves the man taking his share of fertility control.

Hormonal contraception in the older women provides cycle control, controls characteristic symptoms, protects against osteoporosis besides providing a period pattern. Up to the age of 45, a non-smoker normotensive woman may continue on a combined oestrogen and progesterone combination therapy. The combined oral contraceptive has to be discontinued by the age of 35 in the habitual smoker.

Progestagens have been associated for a long time with contraception for the perimenopausal woman. Administration of progestagens may be by the oral route, subcutaneous implant, intramuscular injection and the intra-uterine system. The progesterone only pill, has to be taken on a regular basis within a fixed time.

Injectible contraceptive progestagens produce amenorhoea, which may cause severe anxiety regarding possible pregnancy. There is no relationship of progestagen use and breast cancer risk. Subcutaneous slow release progestagen rods may be non biodegradable and difficult to remove. The progesterone coil is an intrauterine system containing slow release progesterone which provides long acting contraception as effective as sterilisation but completely and easily reversible. This intrauterine device reduces menorrhagia and endometrial hyperplasia and protects against endometrial carcinoma. Apart from providing excellent contraception without systemic progestagens, the progesterone coil may be combined with hormone replacement therapy during these troublesome years of perimenopause. Despite the decrease in fecundity with increasing age, and the reduced coital rate, most women desire an effective method of contraception.

For most women at the end of their reproductive life, an unplanned pregnancy may be devastating. Yet in developing countries, approximately half the women of fertile age, while stating that they do not want any more children, do not use effective contraception methods.

In the 40 to 49 age group:

- risk of miscarriage increases from 12% to 26%.
- risk of perinatal mortality doubles
- risk of maternal mortality four fold.

Moreover, the risk of chromosomal abnormalities increases and more women prefer an effective contraception than have to face the dilemma of diagnostic tests. The psychological problems associated with unplanned pregnancies increase the need for a contraceptive method which has a success rate approaching 100%.

Paradoxically, HRT regimes may contain higher doses of progestogens than in low dose contraception.

BULLETIN

Attention Malta M.D. Class of 1952

A number of 1952 M.D. Malta Graduants will be organising a reunion next year. Eddie Turner, a member of TheSYNAPSE has asked us to assist in making the reunion a success - Where are you all?

Please write or email your whereabouts to Dr. Eddie Turner, M.D., F.R.C.P P.661-20St. S.E., Salmon Arm, B.C., V1E2J8, Canada. Phone: 250/832-1582, Fax: 250/832-1579 email: eturner@shuswap.net or write to TheSYNAPSE directly.

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TheSYNAPSE now features a number of Job Vacancies both for Doctors and Pharmacists - visit Locum Post Vacant for information.

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Attention Dental Profession

We would like to provide more services for Dentists in Malta. A number of facilities may be offered to individuals or organisations willing to dedicate some time to scan for interesting news from the world of dentistry - contact us for more details regarding the Academic Network Associate Programmes

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TheSynapse welcomes articles for publication in this magazine & on the network. For further details, please contact Dr. Wilfred Galea on Tel: 453973

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SPOTLIGHT

Digital Hearing Aids

by **Mr. Adrian M. Agius Muscat**
MD, FRCS (ED), M MED SC (BHAM)

Most patients with sensorineural hearing loss have relatively larger losses at higher frequencies and find it hard to hear higher pitched sounds such as the tones on your mobile phone, electronic alarms and bird song. More important, patients say 'gaps' appear in perceived speech and words are often misunderstood. Designed to beat the limitations of older analogue machines, digital hearing aids can amplify sound of different frequencies to a variable degree. This is especially true for patients with higher pitched losses. Sampling sound several million times a second as it is received into the aid, digital machines respond by modulating frequency and loudness according to the individualís hearing loss pattern.

A 'feedback manager' suppresses the whistling sound of sound leakage from around the mould, making those uncomfortable & embarrassing sounds a thing of the past. ◻