Caduceus

A Publication of the Medical Division of the American Translators Association

SUMMER 2008

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Enjoy the Summer

by Elena Sgarbossa, M.D.

Emerging terms and acronyms:

Normal weight obesity, "drunkorexia" synthetic biology, quadruped humans

Normal Weight Obesity: an apparent oxymoron, this term was coined to draw attention to a previously unrecognized condition. Normal weight obesity affects adults who have normal body weight or normal body mass index (BMI, body weight divided by the square of height) but have proportionally too much fat. In other words, people who are classified as "normal" on standard weight charts and in terms of BMI can still be obese. Excessive fat is greater than 20 percent of body weight for men and greater than 30 percent for women. The extra fat is associated with metabolic disturbances that lead to diabetes and, eventually, to heart disease. This recent finding by investigators at Mayo Clinic conflicts with the prevailing notion that maintaining a normal weight protects from cardiac and metabolic disorders. The neologism "normal weight obesity" thus suggests that the focus in cardiovascular prevention may need to shift from assessing BMI (or weight) only, to assessing percentage of body fat.

"**Drunkorexia**" is a slang word that describes a behavior of self-imposed starvation or bingeing and purging, combined with alcohol abuse. The drinking is often limited to social situations. This eating disorder is more common among young women who try to maintain their weight without reducing their alcohol intake. Alcohol contains about 7 calories per gram, which makes it almost twice as calorie-rich as carbohydrates or protein.

Sufferers starve all day to compensate for the calories in alcohol. "Drunkorexia" more commonly involves bulimia, i.e. food and alcohol bingeing followed by vomiting. The association between eating disorders and alcohol abuse has been known for decades, but "drunkorexia" is an emergent term that encompasses both. It has been already detected in writing in the *New York Times* in March.

Synthetic Biology is a method used to create artificial live organisms or devices from raw materials. It relies on powerful techniques for the automated construction of DNA and their assembly into genes, and it is driven by specific standards and abstractions. Synthetic biology differs from genetic engineering in that it is a *process*, a means to an end.

Synthetic biology could provide ways to redesign biological systems for greater efficiency and for constructing functional "genetic circuits" and metabolic pathways for practical purposes. It can assist in controlling both infections in developing countries (such as malaria) and emerging drug-resistant germs. Other potential applications of this new field is the creation of microorganisms (and possibly other life forms) that can repair defective genes, destroy cancer cells, produce pharmaceuticals, detect hazardous chemicals, and create renewable energy.

Quadruped humans: According to an article published online in *Nature* on June 2, 2008, the existence of quadruped humans was first broadcasted in England in 2006, when a documentary presented a Turkish family in which several adult members walk on all fours. The affected members also suffer from mental retardation. Subsequently, other adults with the condition were identified in Turkey, Brazil and Iraq. The individuals with the condition move by a 'bear crawl,' resting their weight on their wrists and keeping their legs straight and their rears lifted in the air. Remarkably, when some individuals are offered a walker, they quickly discard it and return to quadruped gait.

In June 2008, researchers in Europe reported that in two families analyzed, quadruped individuals carry a mutation in the gene VLDLR. This gene encodes the protein very low-density lipoprotein receptor,

which is required for both uptake of circulating VLDL particles (a type of blood cholesterol) and proper neural development. Another team of investigators reported finding mutations in genes that are involved in development of the cerebellum. These mutations might impede the normal development of balance necessary to walk upright. The understanding of this condition is far from complete. There may be several sets of genes involved in the abnormal balance.

A little bit of everything ...

"Do not judge a book by its cover, you say?" How does the common belief that expensive items are "better" translated into other areas, such as comparisons between "managed-care" physicians and expensive "private" practitioners, or between generic drugs and brand-name medications? Does the perception of better care improve the patient's response? To test the hypothesis, 20 subjects made wine tasting comparisons while undergoing a functional MRI of the brain. The reported pleasantness of the wine positively correlated with price tag, even for the same wine. The brain's activity in certain areas increased when subjects believed they were taking the expensive wines. Previous studies had already suggested that these are the areas that 'encode' the experience of pleasantness. So, despite the time-honored adage, our brain does judge books by their cover!

Ref: Plassmann, H. et al. Marketing actions can modulate neural representations of experienced pleasantness. *Proc Natl Acad Sci U S A* 2008 Jan 22; 105:1050.

"Laughter yoga." Laughter coupled with gentle breathing and stretching can significantly lower blood pressure levels, said Dr. Madan Kataria at the 2008 meeting of the American Society of Hypertension. Investigators studied 2000 male and female individuals in stressful job situations who participated in a typical laughter yoga session lasting 20-30 minutes as compared with a control group of individuals in a similar work environment who did not participate in the yoga laughter. The participants who simulated laughter for 45 seconds to one minute followed by deep breathing and gentle stretching, repeating the process for the duration of the session had significant lowering of their blood pressures as compared to a similar group who did not. Similar benefits accrued to a group in Florence, Italy, who listened to rhythmically homogeneous Celtic or Indian music for 30 minutes followed by slow deep abdominal breathing exercises.
http://www.theheart.org/search.do?searchString=laughter+yoga&x=203&y=9

brain tumor classification. In view of the much publicized discovery of a malignant brain tumor in Senator Ted Kennedy, readers searching for information about the subject should turn to the excellently organized website of the National Cancer Institute:
http://www.cancer.gov/cancertopics/wyntk/brain/

"quack". The origin of the word quack, a derogatory term used against doctors, has nothing to do with ducks. During the Renaissance, doctors found that the only beneficial treatment for syphilis was mercury, commonly known as "quicksilver". This generated the making of salves to which quicksilver was added and it soon followed that these ointments could cure just about anything. Soon enough it was discovered that these potions were useless and could even have toxic effects. Those who sold these were called "quacksalvers", later shortened to "quacks".

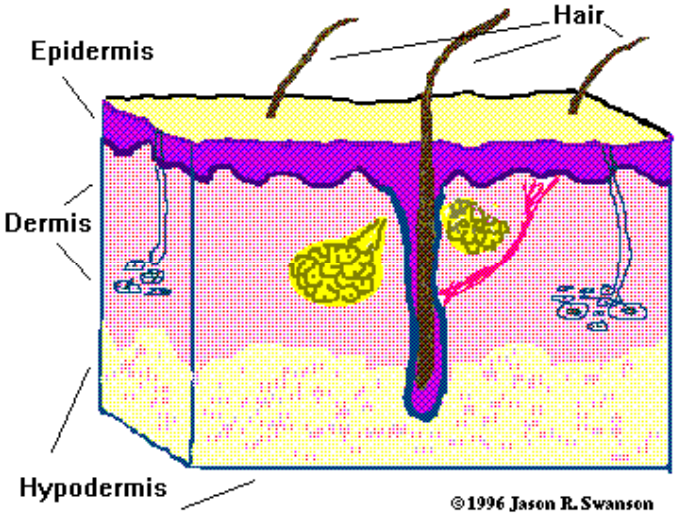
Hypodermatitis. A recent consultation in our medical division listserv centered around the word hypodermatitis, a word not used in the US as frequently as it is in France as *hypodermatite.* By simple definition it should mean an infection or inflammation in the hypodermis, but we couldn't be sure of the actual histological presence of this area under the dermis. The illustration from Loyola University Medical Education Network site, specifically referring to the skin, is accompanied by the following description: "… The dermis is attached to an underlying hypodermis, also called subcutaneous connective tissue, which stores adipose tissue and is recognized as the superficial fascia of gross anatomy." Now, an inflammatory process in the subcutaneous tissue is classically known as a cellulitis (see Dorland's Medical Dictionary), a serious entity that requires aggressive care.

Looking into the issue further we find that the term hypodermatitis is used in the context of chronic venous insufficiency of the lower extremities with longstanding swelling and pooling of blood and fluid in the subcutaneous space. It is described as: "A quasi-permanent edema of the lower third of the leg,

it triggers an inflammation of the teguments, which leads to retractile fibrosis of the subcutaneous tissues. This fibrosis progresses in painful spurts that cause a loss of articular mobility in the ankle. In full-blown fibrosis, the skin retracts and thickens. In extreme cases, it takes on the look of a rooster's calf (see the very developed stage figure). This stage is irreversible."

Hypodermatitis - early stage

Hypodermatitis - very developed stage



TOP 10 PRESCRIBED DRUGS IN THE US
(alphabetical order)

Albuterol	asthma
Ambien	sleep
Lexapro	depression / anxiety
Lipitor	cholesterol
Lunesta	sleep
Metformin	diabetes
Nexium	antacid
Prevacid	heartburn
Zocor	cholesterol
Zoloft	depression / anxiety

Source:Am Pharmacists Assn
2007 Annual Meeting

HYPODERMATITIS REFERENCES

1. Loyola University Medical Education Network - Introduction to the Skin www.meddean.luc.edu/lumen/MedEd/MEDICINE/dermatology/melton/skinlsn/skini.htm

2. http://www.medivein.com/siteuk/varicose/manif.html

Alzheimer's Disease

by Rafael A. Rivera, M.D., FACP

Facts:

- ✓ Average age at onset 72.8 yrs
- ✓ Average time from onset to dx: 2.8 yrs
- ✓ Average survival after dx: 8.3 yrs
- ✓ Average survival if dx at 65: 8.3 yrs
- ✓ Average survival if dx at 90: 3.4 yrs
- ✓ No. of deaths from AD in 2000: 50,000
- ✓ Rank as cause of death in U.S.: 7
- ✓ Relative cost: third most expensive disease
- ✓ Cost to US economy: $100 billion /yr
- ✓ Annual cost of care per pt.: $12,500
- ✓ Average cost of lifetime care: $174.000

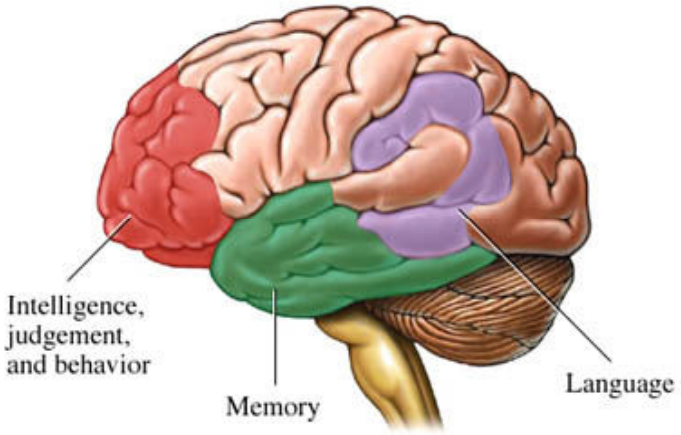
There is no 100% absolutely sure way to diagnose AD other than by dissecting the brain after death looking for the presence of characteristic **neurofibrillary tangles** and **amyloid plaques** in brain tissue. What usually happens in real life is that physicians use nationally recognized diagnostic criteria to 'rule in' or 'rule out' (include or exclude) the various diagnostic possibilities - what we call a **differential diagnosis**, that could be at play when a person shows signs and symptoms of **dementia**.

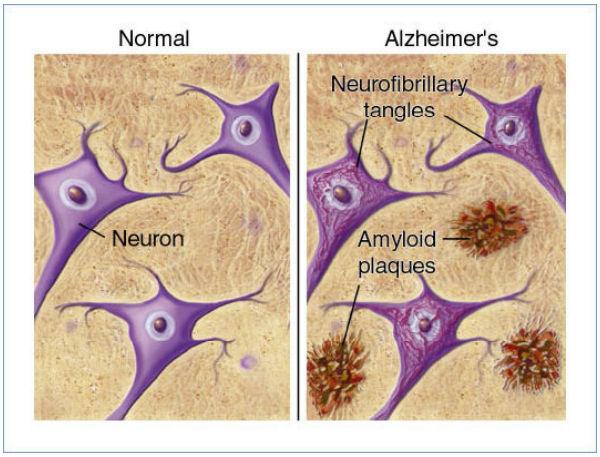
Dementia is a clinical state under the broad category of **Organic Mental Disorders** characterized by loss of brain function in several cognitive areas, the most vital one being memory impairment.

Organic vs Functional

Medically speaking, **organic** means pertaining to or arising from a diseased or malfunctioning organ. The problem is detectable, identifiable, measurable with available tests. **Functional** is the word applied when no specific, identifiable or measurable problem is found by the usual diagnostic means available. This dichotomy is often the case in the mind-brain connection; thus, the middle ground category: **organic mental disorder**.

There are approximately 70 to 80 types of dementia, 50% of which are due to AD. Dementia is not an





illness in the classical sense of measles, tonsillitis, pneumonia, stroke, myocardial infarction; it's rather an array of symptoms arising from a malfunctioning brain, *i.e*. problems with memory, language, cognition, movement, planning, recognizing - all of the functions which we call, collectively, the *mind*. So, keep in mind that what we call 'mind' lies inside the brain. The mind is the extraordinary composite result of multiple cerebral (brain) functions. That is why many other conditions in the central nervous system, such as: strokes, Parkinson's disease, Huntington's disease, brain tumors, alcohol and illegal drug use and so many others can cause symptoms similar to AD.

There is a new category of mental impairment called MCI, which stands for mild cognitive impairment. MCI is characterized by memory impairment without impairment of other cognitive functions; however, 80% of people with MCI do develop AD.

Where is memory, you ask?

In general, the cerebral cortex, the outermost layer of the brain, is 'where the action is', so to speak. The cortices of both sides of the brain are able to analyze sensory data, perform memory functions, learn new information, form thoughts and make decisions. As you may recall, the left hemisphere is the "analytic" brain, where memory would be stored in a language format, whereas the right brain is the "holistic" area where memory is stored in auditory, visual and spatial modalities. The frontal cortex area, in general, is responsible for cognition and memory.

A superb site about brain functions is: http://www.waiting.com/brainfunction.html. The details about where the various functions reside is, unfortunately, derived from patients who have had specific injuries to the various areas of the brain. This other site: http://www.gordonjohnson.com/ is one sponsored by lawyers who have defended brain injured patients and have collected the scientific brain studies data to support, from the medical point of view, their clients' disabilities -- therefore, in a reverse mode, deriving the data that relates dysfunction and disability to the anatomy of brain injury as demonstrated by imaging studies and functional medical data. As we speak, data on TBI: traumatic brain injury, is being collected in soldiers who have sustained such injuries in the Iraq war as a result of exposure to roadside explosive devices.

DISEASE VS DISORDER

DISEASE is any deviation or interruption of the normal structure or function of an organ or system of the body as manifested by characteristic symptoms and signs; the etiology (cause), pathology (characteristic tissue damage) and prognosis may be known or unknown.

DISORDER is also a derangement of function; physical or mental. Most disorders, however, do no have discernible anatomic pathology when the tissue of the organ involved is examined. The typical example is mental disorders in which brain tissue is most often normal when examined under the microscope, unless the mental disorder is the result of drugs, trauma, stroke (circulatory collapse), other.

Ref: Dorland's Medical Dictionary
Diagnostic and Statistical Manual of Mental Disorders (DSM) IV ed.

Higher Suicide Rates Among Physicians

Suicide rates among physicians are higher than those among the general population and higher among women physicians (Am J Psychiatry 161:2295-2302, Dec 2004). It ranks as the leading cause of premature death among physicians. At the same time, deaths among physicians from cancer, heart disease and other ailments has dropped 40%-60%. The high suicide rate is associated with overwork and general stress, combined with knowledge of toxicology and access to legal drugs. Most commonly, physicians use firearms and drug overdoses to commit the act.

Newsweek magazine, April 28. 2008
http://findarticles.com/p/articles/mi_m0CYD/is_5_38/ai_98830125
http://www.medscape.com/viewarticle/475468
TV documentary, "Struggling in Silence"

by José R. Martí, MD

Occasionally, surgical patients tell us they could overhear conversations between the doctors and the nurses, just as they did when they were being prepared to undergo their surgical procedure, or even as the surgical procedure was still in progress. It happens only seldom; but still, it is a very scary thought. I would like to explore this from the anesthesiologist's perspective describing the three general areas in this field:

- **General Anesthesia**
- **Regional Anesthesia** (*Blocking*)
- **Local Anesthesia**

General anesthesia means that the patient goes to sleep **before** any significant surgical procedure i.e., open heart surgery, transplantation or any major cancer operations. This type of anesthesia requires some form of **premedication,** including **sedation** and **muscle paralyzing agents**. Sedation is important to help the patient relax before the anesthetic agents are delivered intravenously and later through a ventilating machine. The muscle paralyzing agents are injected intravenously **after** the patient has been sedated; they are important, because they allow the anesthetist to put the patient on the respirator, without resistance or involuntary motions from the patient. The timing between these two steps is important; patients are sedated ***before*** they are paralyzed. Missteps with this do happen once in a rare while and that is when patients can hear what is going on around them **before** they go to sleep; or **later**, when they wake up, but the muscle paralyzing agents have not worn off yet.

Regional anesthesia involves an injection to block the *regional* nerves to the limbs or other areas, without putting the patient to sleep. Patients requiring hernia repairs, arthroscopic surgery or even **minor** amputations are good candidates for these types of procedures. These techniques still require some form of **sedation**, similar to that given in general anesthesia. However, these patients will be fully awake, even though sedated, and aware of their environment during the whole procedure; in fact they communicate verbally with the surgical team throughout the length of the operation.

Local anesthesia means an injection of a local anesthetic (Xylocaine, Lidocaine) for a relatively small procedure limited to a **local** (specific) area, such as on the skin of the face or the back, or on the limbs. It does not require any form of premedication and these patients are fully aware of the environment around them; they can talk to the members of the surgical team anytime throughout the procedure.

In summary, patients undergoing **regional or local anesthesia** are fully aware of the environment around them, they can hear and talk to their surgical team anytime. However, those patients who require **general anesthesia** need to have sedation and muscle paralyzing agents before they are put to sleep and these chemical substances need to wear off before they become fully conscious after surgery. They might be able to hear and talk to the surgical team before they receive the anesthetic agents, **before** they become ***unconscious*** and also after the anesthesia is ***reversed***, before they go to the recovery room!

At the moment we can't understand why or how some patients might be able to hear a conversation and experience the environment. However, **the future is always ahead**. There is a new technology emerging to help untangle this issue. it is called **BIS (Bispectral Index Monitor)**. This is a **non invasive** monitoring technology that measures the effects of drugs on the brain using a sensor placed on the patient's forehead, connected to a monitor. It measures the brain activity and computes it within a level between 0 and 100, known as the **BIS value**; which corresponds to the level of consciousness during and after anesthesia. This is the current status of **Anesthesia Awareness**!!

Caduceus
A PUBLICATION OF THE MEDICAL DIVISION OF ATA

by M. Eta Trabing

My opinion of this seminar and HITA's half-day seminar on the following day is unabashedly enthusiastic – I met up with old friends, I made new friends, and I learned a lot – what more could one ask for!

Our first speaker was the well-known Mary Esther Diaz from Austin, TX – a great colleague and friend to us Texans, with much experience and many connections – whose subject was "Demystifying Cardiovascular Terminology" and did she ever demystify! A very clear and complete explanation (handouts were detailed and to the point). After the anatomical descriptions, Esther went through an Emergency Room Report on Chest Pain, then a report on a Cardiac Catheterization procedure, explaining acronyms and specific terminology. And my favorite, an Echocardiography report, totally incomprehensible to start with and finally, making total sense after the explanations. A super talk that was practical as well as scholarly. If I ever need an EKG, I will actually know what it says!

The next great speaker is also well-known to many of us, but it was the first time I had actually met María A. Cornelio of Hunter College, CUNY, New York, and what a treat it was! María talked about "How to Translate for the Healthcare Consumer: A Hands-on Workshop." She started with Skills Required For A Successful Translation, both from the Source-Language Document and Target-Language Document's points of view. This resulted in a lively discussion. Again, the handouts were useful and practical. María talked about Health Literacy Statistics, explanations of The Plain Language Initiative, a very useful example of an Informed Consent text with some paragraphs in various readability standards from 4th grade to college; very clear explanations of the legal implications of any consent form, whether for research studies or medical care and then a couple of texts that we tried to redo in simpler language. Harder than it looks! We are so used to writing at a high register, that we have forgotten how to be simple. As a health care translator myself, I was really reminded to keep the consumer in mind!

We broke up for a leisurely 2 hour lunch with good friends and back to a very interesting talk by Kathie Rickman, DrPH, RN, a psychiatric clinical nurse specialist and addiction counselor at MD Anderson Cancer Center in Houston, on "Boundaries and Self Care in Helping Professions". She talked about the importance of clear lines between what is acceptable and what is not, particularly in professions where sickness, bad news, potential mortality and body image changes are constant. Although Dr. Rickman is not an interpreter, her information on how we all need to be calm and confident in our demeanor so as to project a strong stabilizing factor in emotionally unstable situations is invaluable to interpreters. Clear personal values are essential, she said. If we find ourselves giving in or compromising our values, our personal discomfort may lead us to premature burnout and loss of professional resiliency. The talk was excellent and very funny and very full of useful information, with some Texan country philosophy (i.e., If you don't stand for something, you'll fall for anything!) thrown in for good measure.

A good networking session to end the day with a glass of wine and looking over everyone's favorite bookseller's wares – InTrans Books, Freek Lankhof's books came in on the last plane out before the weather turned bad in the NE – and we bought a lot of books!

The HITA seminar on Sunday morning, very nicely put together by Jorge Ungo, the Director of Professional Development, started with a talk by Mary Esther Diaz, of the Texas Association of Healthcare Interpreters and Translators (TAHIT), on the legislative state of a number of bills awaiting approval at the Texas legislature. Jorge Ungo spoke about the next TAHIT Annual Symposium in Dallas/ Fort Worth on April 25 and 26, 2008.

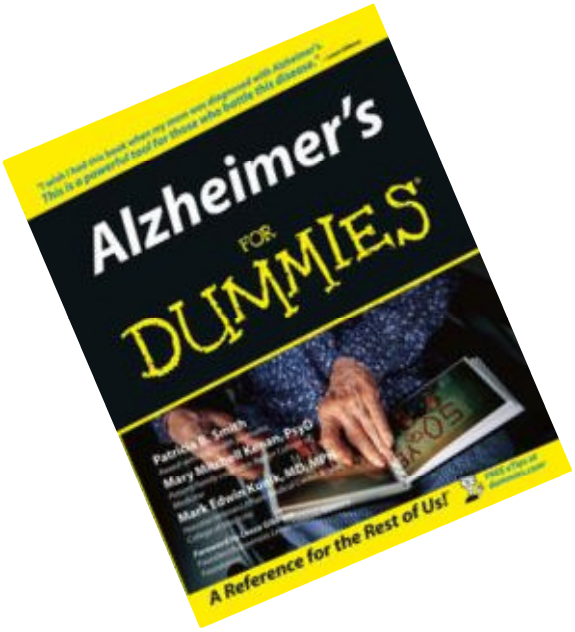
Our next speaker, is the much esteemed Graciela Zozaya who is both an interpreter and a patient representative at Texas Children's Hospital Heart Center in Houston. A tender and explicit speaker, her photos of operating rooms and tiny babies with

sick hearts had us all gulping and me shedding the odd tear -- view of another side that many of us never see and that has broadened our knowledge and understanding immeasurably! Graciela's handouts were excellent. Her talk about the challenges of conveying the medical and surgical aspects of family education to parents who cannot see the complex and life-threatening defects in their child's heart were very illuminating for all of us.

Then followed Dr. Rajiv Agarwal, of Cardiovascular Association, PLLC. An excellent speaker, Dr. Agarwal covered many aspects of heart disease, and had we not had Esther Diaz's wonderful explanation the day before, we might have been a little lost with the good doctor's jargon – but we weren't! He also provided many details on the different heart disease tests and how to decipher the corresponding reports for each test, and lots of new terminology (at least, for me). I think what I liked best was that he gave us facts, but didn't try to frighten us into getting tested and immediately going on a diet, and exercising wildly, which most of us would resist just because! He said (and I hope I get the quote right), "How much can you diet and exercise, if this means that your life sucks!" My kind of doctor! I shall go and get tested (Medicare will cover this!), as I may fall into the 30% to 70% bracket in which patients don't know that they may be candidates for heart attacks. It's much easier to know those who definitely are candidates and those who definitely are not.

All in all, a terrific two days of learning, having fun and talking and totally worth the time, money and effort. Thank you, ATA and HITA for all the great speakers!

There is no question that the Dummies series by Wiley Publishing Company has been widely accepted from its beginnings. The early books dealt with everyday subjects such as computer programs, how to play tennis or golf or chess and the like. Today, there are Dummies for investing, home buying, guitar playing, Italy, Hawaii, U.S. History, Spanish, algebra, eBay, parenting and sex, to name just a few. In the medical field there are Dummies for diabetes, weight loss surgery, gluten-free living and… you guessed it! - Alzheimer's Disease (AD).



The compelling attraction of the Dummies is that the subject content is treated well, paying particular attention to the difficult areas, so as to purposely simplify them without loosing accuracy. The format and layout of the material are particularly useful. And so it is with Alzheimer's for Dummies. Experienced physicians and nurses contributed to this book their expertise and experience in the subject, from a scientific as well as their own personal perspectives in treating patients and caring for family members.

Particularly useful is the chapter about Evaluating Treatment Options. At this moment there is nothing we can do to prevent AD other than selecting your parents very carefully, living a healthy, active life with as much brain activity as possible. Simply understanding what's happening and knowing how to proceed is half the battle. The hard decisions have to do with evaluating care options: Who? and Where? Besides members of the family and friends, who else can or will be involved? Will the care be at home, in an assisted living facility or a licensed residential care home - the latter known by many names: room and board and care homes, adult family homes, foster homes or adult group homes –they all provide similar services. A dedicated AD care center, or a nursing home is the choice when nursing and medical care personnel are required.

Deciding on end-of-life care options is a particularly useful chapter, which essentially comes down to three choices: a) letting nature take its course (which includes a) DNR-Do Not Resuscitate - order, b) palliative care, or c) aggressive care. All of this is discussed in a simple, clear way in this book. On a personal note, my choice for elders in my family was a small assisted living facility with friendly, caring, Spanish-speaking and cooking personnel, with an MD on call as needed and home health services ordered when needed.
It worked out very well.

Alzheimer's Glossaries:

http://www.alzinfo.org/glossary/index.asp

http://www.johnshopkinshealthalerts.com/reports/memory/928-1.html

http://www.netwellness.org/healthtopics/alzheimer/more.cfm?catgatoryid=9

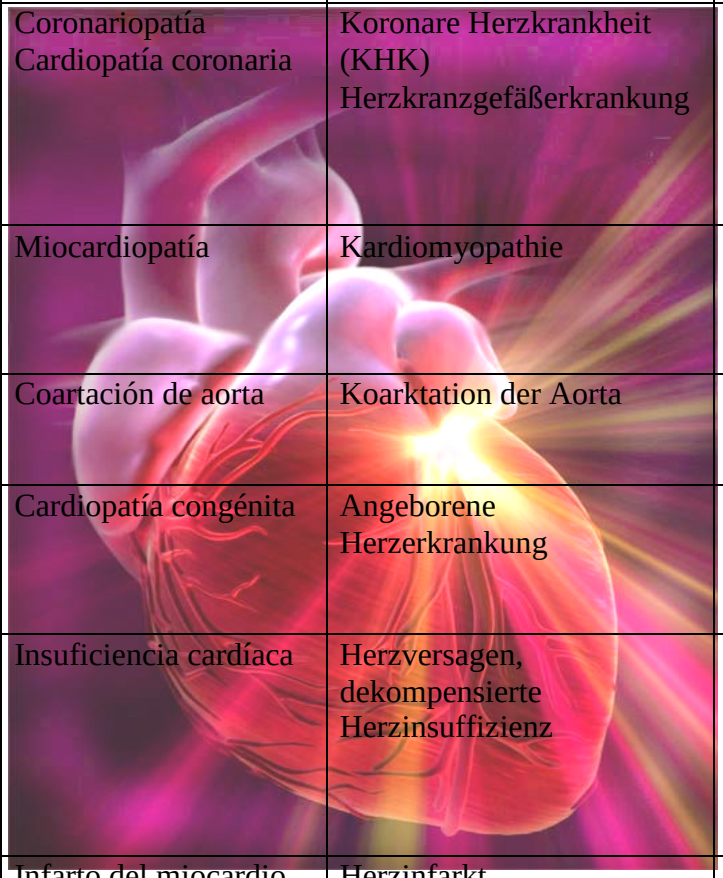
http://www.nlm.nih.gov/medlineplus/alzheimersdisease.html (Eng-Spa)

Answers from page 17

1. B	**6. B**
2. V	**7. B**
3. V	**8. V**
4. B	**9. V**
5. V	**10. V**

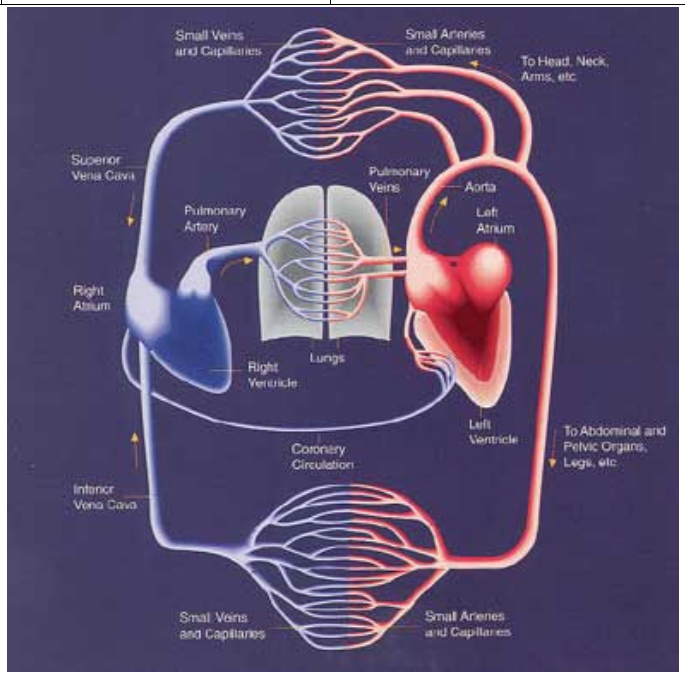
CONDITIONS

ENGLISH	SPANISH	GERMAN	EXPLANATION
Aneurysm	Aneurisma	Aneurysma	Weak, dilated section of an artery or the cardiac wall
Angiography	Angiografía	Angiographie	x-ray examination of blood vessels obtained through catheterization and injection of a contrast agent (dye)
Aortic stenosis	Estenosis aórtica	Aortenstenose	Narrowing of the aortic valve
Coronary artery disease (CAD) Coronary heart disease (CHD)	Coronariopatía Cardiopatía coronaria	Koronare Herzkrankheit (KHK) Herzkranzgefäßerkrankung	Obstruction of the coronary arteries by plaque, thrombus, or both, i.e., the vessels that supply the heart muscle with oxygen
Cardiomyopathy	Miocardiopatía	Kardiomyopathie	Condition of the heart muscle resulting in impaired pumping
Coarctation of the aorta	Coartación de aorta	Koarktation der Aorta	Congenital narrowing of the aorta
Congenital heart disease	Cardiopatía congénita	Angeborene Herzerkrankung	Malformation of one or more heart structures or large vessels from birth
Congestive heart failure	Insuficiencia cardíaca	Herzversagen, dekompensierte Herzinsuffizienz	Impairment of the pumping function of the heart due to cardiomyopathy, valvular disease, hypertension, or other conditions
Myocardial infarction (heart attack)	Infarto del miocardio	Herzinfarkt	Death of heart muscle resulting from lack of blood supply, usually after the occlusion of a coronary artery
Pericarditis	Pericarditis	Perikarditis	Inflammation of the pericardium (membrane surrounding the heart)



SIGNS & SYMPTOMS

ENGLISH	SPANISH	GERMAN	EXPLANATION
Angina pectoris (chest pain)	Angina de pecho	Angina pectoris	Chest pain caused by insufficient blood (ischemia) to the heart
Arrhythmia	Arritmia	Arrhythmie, Herzrhythmusstörung	Abnormal heart rhythm
Obstruction/occlusion of a blood vessel	Obstrucción de un vaso sanguíneo	Blutgefäßverstopfung/-verschluß, Blutgefäßobstruktion/-okklusion	Partial or complete blockage of a vessel by plaque, thrombus or both
Cardiac arrest	Paro cardíaco	Herzstillstand	Non-beating heart
Ischemic pain	Dolor de origen isquémico	Ischämische Schmerzen	Pain resulting from poor blood supply (ischemia) to a specific part of the body
Murmur	Soplo	Geräusch	Extra heart sound (often abnormal)
ST segment elevation	Supradesnivel del segmento ST	ST-Streckenhebung	ECG abnormality that may indicate cardiac injury
ST segment depression	Infradesnivel del segmento ST	ST-Streckensenkung	ECG abnormality that may indicate cardiac ischemia



DIAGNOSTIC PROCEDURES

ENGLISH	SPANISH	GERMAN	EXPLANATION
Arteriogram	Arteriograma	Arteriographie Arteriogramm	X-ray examination of arteries obtained with catheterization and injection of a contrast agent (dye)
Cardiac catheterization	Cateterismo cardíaco	Herzkatheteruntersuchung	Test performed by threading a catheter from the groin through a blood vessel into the heart to obtain cardiac blood samples, measure intracardiac pressures and volumes, and visualize anatomical structures after injecting a dye
Cardioversion	Cardioversión	Kardioversion	Electric shock to the heart to restart it or interrupt an arrhythmia
Echocardiography	Ecocardiografía	Echokardiographie	Imaging of the heart obtained by ultrasound scanning (procedure)
Echocardiogram	Ecocardiograma	Echokardiogramm	Product of the echocardiography procedure
Ejection fraction	Fracción de eyección	Ejektionsfraktion Auswurffraktion	Percentage of blood ejected from the left ventricle with each heart beat
Electrocardiography	Electrocardiografía	Elektrokardiographie	Graphic recording of the electrical waves of the cardiac cycle or spread of excitation throughout the heart (procedure)
EKG (electrocardiogram)	Electrocardiograma	Elektrokardiogramm, EKG	Product of the electrocardiography procedure

DIAGNOSTIC PROCEDURES

continued

ENGLISH	SPANISH	GERMAN	EXPLANATION
Exercise tolerance test (ergometry) Symptom-limited Exercise performance Resting performance	Prueba de esfuerzo (ergometría) Limitada por síntomas Durante ejercicio Durante descanso	Belastungstest/Ergometrie	Test to evaluate the ability of the coronary circulation to meet the metabolic demands of an increasing exercise load or to measure overall exercise capacity by running on a treadmill or riding a stationary bicycle.
Holter Monitor, 24-hour	Monitor de Holter de 24 horas	Langzeit-EKG, Holter-Monitoring	ECG recorded continuously (usually during 24 hours) with a portable recorder
Lab tests Cardiac biomarkers	Análisis de sangre Biomarcadores cardíacos	Laborwerte Kardiale Biomarker	Blood proteins, enzymes and hormones that indicate damage or injury to the heart muscle resulting from coronary obstruction (total or partial)
Lipid profile (cholesterol, triglycerides)	Perfil de lípidos (colesterol, triglicéridos)	Fettwerte/Lipidprofil (Cholesterin, Triglyceride)	Lipids that predict atherosclerosis and ACS
Left ventricular (LV) function	Función ventricular izquierda	Funktion des linken Ventrikels (LV)	Ability of the left ventricle to pump blood to the body
Radionuclide scans Nuclear ventriculography (MUGA – MUltiple Gated Acquisition scan) Thallium scan (scintigram)	Estudios diagnósticos radionucleares Ventriculografía radionuclear Gammagrafía de talio	Radionuklidszintigraphie Radionuklid-Ventrikulographie oder MUGA Bildgebende Darstellung der Myokarddurchblutung oder Thallium-Myokardszintigraphie	Imaging of heart with radioactive agents

THERAPEUTIC PROCEDURES

ENGLISH	SPANISH	GERMAN	EXPLANATION
Angioplasty	Angioplastía	Angioplastie	Percutaneous coronary intervention done with a balloon catheter to restore blood flow within an artery
Arterial anastomosis	Anastomosis arterial	Arterielle Anastomose	Surgical attachment of one artery to another or to a graft
Vascular graft	Injerto vascular	Gefäßtransplantation/ Gefäßprothese	Segment of a blood vessel from the patient or of synthetic material, used to connect blood vessels
Coronary artery bypass graft (CABG)	Bypass, derivación aorto-coronaria	Bypass oder koronare Bypass-Operation	Connection of the aorta to a coronary artery (distal to a plaque) with a graft to restore blood flow
Coronary arteriography	Arteriografía coronaria	Koronare Arteriographie	x-ray examination of the coronary arteries with a contrast agent
Implantation of a cardiac pacemaker or a defibrillator	Implante de un marcapasos o desfibrilador	Implantation eines Herzschrittmachers/ Defibrillators (defi)	Procedure to implant a device to control the cardiac rhythm
Repair of aortic aneurysm	Corrección de aneurisma aórtico	Sanierung eines Aortenaneurysma	Surgical repair of an aortic aneurysm
Valvulotomy	Valvulotomía	Valvulotomie	Surgical incision of a heart valve to relieve stenosis
Valvuloplasty	Valvuloplastía	Valvuloplastie	Opening of a stenotic valve with a balloon catheter

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