

therapeutics it becomes imperative to note, record and discuss uncommon anatomical variants. Rectus sternalis muscle can easily be overlooked during breast surgeries and often be puzzling on mammography or CT Scan. This anomaly is highly unpopular among people in medical and surgical fields. A survey conducted among physicians, medical students, surgery and plastic residents and faculty from other disciplines revealed near-total unfamiliarity about this anomaly<sup>14</sup>. It is not due to its low incidence but may be due to paucity of encounter during surgery and imaging. With improved radiological imaging techniques Sternalis muscle will be noted more often than in yesteryears<sup>2</sup>.

Diagnosing sternalis muscle on mammography can often be puzzling since it can mimic a malignant breast mass<sup>7</sup>. Bradley et al<sup>2</sup> gave the first description of this muscle in the breast imaging literature but could establish the fact only after open biopsy for a suspected breast tumor. Later they found 4 Sternalis muscles in 32,000 mammograms done over three years. Bailey<sup>14</sup> noted this muscle in 3 patients undergoing mastectomy over a period of 15 years. The medial side of breast is considered as a potential blind spot on mammography in mediolateral projection. Radiologists must visualize this area in craniocaudal projection with adequate positioning and traction of breast to maximize volume of tissue and include mobile margins<sup>2</sup>. The diagnosis depends on its location, orientation and absence of corresponding abnormality on lateral views<sup>2</sup>. For better visualization CT scan should be done as it clearly defines longitudinal and parasternal course of the muscle.

Thus, we conclude that rectus sternalis muscle can be a puzzle for anatomists, a diagnostic dilemma for radiologists or surgeons who must have the knowledge of this uncommon variant in the anterior thoracic wall otherwise it could be easily misinterpreted during mammography, imaging by computed tomography or magnetic resonance.

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## Literature Review

Compiled by Dr. P. Chattzree

**Azithromycin combination therapy with artesunate or quinine for the treatment of uncomplicated falciparum malaria in adults.** Noedl H, K nirseh C et al. *Infection* 2005;33:170.

Azithromycin may have an important role as an antimalarial due to its safety in children and experience with use in pregnancy. The study was designed as a phase II open label, randomized 28 day inpatient study of acute, uncomplicated falciparum malaria, comparing the safety and efficacy of azithromycin (AZ) - artesunate (AS) combination with AZ-quinine (QN) regimens in 1000 adults patients : (1) 3 days of AZ 750 BID & AS 100mg BID. (2) 3d of AZ 1000 OD & AS 2000D (3) 3d of AZ 750mg BID & QN 10mg / 1kg BID, (4) 3d of AZ 500mg TID daily & QN 10mg 1kg TID.

After completion of the first 50 subject failure rates, PCT & FCT were compared in a preliminary efficacy analysis. The 28 day cure rates for the 4 groups were 100 (95% CI; 71-100), 100 (73.5-100), 72.7 (39.0, 94.0), and 91.7 (61.5 - 99.8) respectively. Two RIIIIs and one RI failure were seen in the BID quinine arm. With a mean PCT & FCT of 34+12 and 26 + 18 hours the artesunate combinations led to a significantly (P<0.001) faster clinical and parasitological improvement than the quinine arms (80+34 and 60+39 hours) Clinical treatment response was closely correlated with in vitro drug sensitivity data. Drug combination were generally well tolerated. These data suggest that both azithromycin-artesunate even when given only once daily for 3 days as well as azithromycin-

quinine TDS are safe and highly efficacious combinations for uncomplicated falciparum malaria.

**Angiotensin receptor blockers and ACE inhibitors are equivalent in type 2 diabetic nephropathy.** Bamett AH, Bain SC, Bouter P et al. *N.Engl. J. Med* 2004;351(19)1952-1961.

In this prospective multicenter, double blind 5 years study. 250 subjects with type II diabetes and early nephropathy were randomly assigned to receive either the angiotensin II receptor blocker telmisartan (80mg daily in 120 subjects) or the ACE inhibitor enalapril (20mg daily in 130 subjects). The primary endpoint was the change in glomerular filtration rate (determined by measuring the plasma clearance of ionexal) between the baseline value and the last available value during the 5 year treatment period. Secondary end points included the annual changes in the GFR, serum creatinine level, urinary albumin excretion, and blood pressure, the rate of end stage renal disease and cardiovascular events and the rate of death from all causes.

After 5 years, the change in glomerular filtration rate was - 17.9 ml/min/1.73m<sup>2</sup> of body surface area; with telmisartan (in 103 subjects) as compared with 14.9ml/min 1.73m<sup>2</sup> with enalapril (in 113 subjects), for a treatment difference of -3.0ml/min/1.73m<sup>2</sup>. The lower boundary of the confidence interval in favour of enalapril was greater than the predefined margin of -10ml/min/1.73m<sup>2</sup>, indicating that telmisartan was not inferior to enalapril. The effects of the two agents on the secondary end points were not significantly different after 5 years.

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#### ETHICAL GUIDELINES FOR BIOMEDICAL RESEARCH

The need for uniform ethical guidelines for research on human subjects is universally recognised. It has acquired a new sense of urgency as the critical issues in the area of biogenetic research involving human subjects have become acute. Apart from the mandatory *clinical trails on new drugs, a number of diagnostic procedures, therapeutic interventions and prevention measures* including the use of vaccines, are being introduced which involve human subjects. Further the advent of *new medical devices and radio-active materials* and therapeutic benefits of *recombinant DNA products* have added a new dimension to the ethical issues that need to be considered before evaluating these for their efficacy, utility and safety.

Any research using the human beings as subjects shall bear in

mind the following principles of : i) **essentiality**, (ii) **voluntariness**, **informed consent**, (iii) **non exploitation**, (iv) **privacy and confidentiality**, (v) **precaution and risk minimisation**, (vi) **professional competence**, (vii) **accountability & transparency**, (viii) **maximisation of public interest and distributive justice** (ix) **institutional arrangements** (x) **public domain** (xi) **totality of responsibility** and (xii) **compliance**.

Recent advances in the field of **Assisted Reproductive technologies, organ transplantation, Human genome analysis, and gene therapy** promise unquestionable benefits to mankind. At the same time, they raise many questions of law and ethics, stimulating public interest and concern.

(Source : ICMR Publication 2000)

#### Literature Review

Compiled by Dr. PD Gulati

**Decline of renal function is associated with proteinuria and systolic blood pressure in the morning in diabetic nephropathy.** Suzuki H, Kanno Y, Nakamoto H, Okada H, Sugahara S. *Clin Exp Hypertens.* 2005 27(2-3):129-38.

The aim of this study was to investigate a significance of increased proteinuria in the morning and the effects of antihypertensive treatment on proteinuria and arterial blood pressure in the progression of chronic renal insufficiency in type 2 diabetic patients with hypertension and nephropathy. In three 24-hr urine samples and blood pressure monitoring, separated into a night- and daytime and spot urine in the morning, variation in protein-creatinine ratio (g/g) and blood pressure were assessed in 24 (58 ± 3years old; M/F: 17/7) diabetic patients with hypertension and nephropathy. Furthermore, the effects of antihypertensive therapy of combinations of angiotensin converting enzyme (ACE) inhibitor, calcium antagonists, diuretics, and alpha blocker were evaluated in 3 years. Home blood pressure measurement was carried out every month and 24-hr urine was collected every 2 months. The baseline urine excretion of protein-creatinine ratio and blood pressure were (1.22 ± 0.13 g/g creatinine: 154/96 ± 6/5 mmHg) in daytime and (1.39 ± 0.13: 168/88 ± 15/7) in the morning. At the end of the study, significant associations among a decline of 24-hr creatinine clearance and both of the urine excretion of protein-creatinine ratio (r=0.47, p<.01) and the levels of systolic blood pressure (r=0.46, P<.01) and between the levels of systolic blood pressure and the urine excretion of protein-creatinine ratio in the morning (r=0.57, p<.001) were demonstrated. However, there were no significant associations among other variables. Analysis of patients who had systolic blood pressure in the morning less than 140 mmHg revealed that 65% of these patients received doxazosin-averaged

doses of 4.8 ± 1.5mg daily. The levels of both blood pressure and proteinuria-creatinine ratio in the morning mainly associate with progression of renal function in diabetic patients with hypertension and nephropathy.

**Why Are Indian More Prone to Diabetes.** V. Mohan. *JAPI.* 2003; 780-781.

Diabetes, a global public health problem, is now emerging as a pandemic and by the year 2025, three-quarters of the world's 300 million adults with diabetes will be in non-industrialized countries and almost a third in India and China alone. There is evidence from several studies that the prevalence of Type 2 diabetes is increasing in migrant Indians. Today, the prevalence of diabetes in the urban metros of India is approaching the figures reported in the affluent migrant Indians. Environmental and lifestyle changes resulting from industrialization and migration to urban environment from rural settings may be responsible to a large extent, for this epidemic of Type 2 diabetes in Indians. Obesity, especially central obesity and increased visceral fat due to physical inactivity, and consumption of a high-calorie/high-fat and high sugar diets are major contributing factors. There is also strong evidence that Indians have a greater degree of insulin resistance and a stronger genetic predisposition to diabetes. As several of the factors associated with diabetes are potentially modifiable, the epidemic of diabetes can be curbed if proper measures are taken to increase physical activity and reduce obesity rates in adults, and most importantly, in children. In addition, strategies to achieve healthy fetal and infant growth and encouraging the use of traditional diets rich in fibre are also important steps. Such interventions should be attempted in those who are genetically predisposed to diabetes in order to tackle explosion of, and thereby reduce the burden due to, diabetes within the Indian subcontinent.