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DR. BHAVNA KUMPAVAT

BEYOND PHYSIOLOGY : HOMOCYSTEINE

AS A CAD RISK FACTOR :

DR Janardan V Bhatt MD,MD ,PhD Editor,

Homocysteine is a sulphur containing amino acid. Recently it has been found that increased plasma level of homocysteine (clinically known as hyperhomocystenemia) is associated with increase risk of atherosclerotic coronary ,cerebral and other peripheral vascular diseases. Though the homocysteine and its precursor an essential amino acid methionine play significant role in metabolism during healthy state. But due to excessive production of these amino acids i.e.homocysteine and other related compounds like cystine and cysteine are associated with athrosclerosis. Normally mithionine which we take with protein in diet undergo alterations in our body mainly by oxidation in to three compounds

[1] homcysteine

[2] homocystine

[3] homocysteine thiolactone.

These compounds are suphur containing compounds. They together are raised in hyperhomocystenemia . The normal fasting plasma level of these compound is varies from 6to 12 micromol /L in women and 8 to 14 micromoles /L in man. But there may be some variation between laboratories. According to the severity ,moderate ,intermediates and severe hyperhomocystenemia refer to 16 to 30,31 to 100,and greater than 100 micromoles /L respectively. In our body metabolism methyonine has two options [1] it is converted into homocysteine,and then it undergo remethylation in the presence of enzymes methionine synthase [MS] and methylene tetrahydrofolate reductase[MTHFR],in the presence of two coenzymes i.e. Vitamin B-12/cobalamine and folic acid respectively.[2] Methionine also undergo demethylation and transsulfuration. Here the end products are cystathionine , glutathione and glutathione sulphate which are excreted in the urine. Here the chief enzyme is cystathionine beta synthase and coenzyme is pyridoxine/Vitamin B6.

Hyperhomocystenemia :

The principal causes of hyperhomocystenemia are [1] the genetic [2] nutritional [3] diseases [4] drugs.

[1] Genetic causes. This includes the deficiency of the various enzymes ,the commonest being CBS deficiency the classical congenital homocystinuria. In this condition there is ectopia lentis mental retardation ,premature atherosclerosis and thromboembolic phenomenon. There is mark elevation of plasma and urine homocysteine concentration . Deficiency of MTHFR is also associated with severe hyperhomocystenemia ,the prognoses is worse.

[2] Nutritional causes are deficiency of one or more of the Vitamins i.e. folic acid ,vitamin B12 and B6 .These deficiencies are relative and more commonly occur in elderly. It is found that homocysteine level are inversely related to blood concentration of folate, cobalamin and to a lesser extent pyridoxine.

[3] Diseases. Hyperhomocysteinemia is found to be associated with diseases like hypothyroidism, chronic renal failure, systemic lupus erythematosus.

[4] Drugs. Certain drugs which are responsible for this condition are methotrexate, phenytoin, carbamazepine, nitrous oxide, theophylline, cholestyramine, niacin.

Hyperhomocysteinemia and atherosclerosis: Large number of prospective and retrospective randomized controlled studies has concluded the fact that hyperhomocysteinemia is an independent risk factor for atherosclerosis. It was Dr. Kilmer McCully a pathologist of Harvard who first observed atherosclerosis and thromboses in children suffering from homocystinuria with elevated plasma homocysteine. Unfortunately Dr. Kilmer McCully has to lose the job because the medical people were not ready to accept his belief and hypothesis that something other than cholesterol can cause the heart disease. This happened in 1969. After thirty years now it is proved that hyperhomocysteinemia is an independent factor for atherosclerosis.

The metaanalyses conducted by Buoshey et al concluded that hyperhomocysteinemia was an independent factor for CAD. A 5 micromoles/L increment in homocysteine elevates CAD risk as much as cholesterol increase of 20 mg./dL. Prolonged lowering of homocysteine by 3 to 4 micromoles /L is associated with 30 to 40% reduction in risk of CAD. They also predicted that a 350 microgram/day intake of folic acid in man and 280 microg/day intake of folic acid in women could potentially prevent about 30500 and 19000 vascular deaths annually in man and women respectively. Other studies i.e. Graham's et al, Arnesen et al, Nygard et al, Malinow et al, Selhub et al, Konecky et al concluded the relationship between homocysteine and atherosclerosis and impact of vitamins like folic acid, pyridoxin and cobalamin.

Some of the methods used were ultrasonographic assessment of carotid artery, thoracic aorta, red cell folate concentration, plasma cobalamin and plasma pyridoxal phosphate, nitric oxide mediated brachial artery dilatation, and coronary angiographies. All these studies have concluded that the homocysteine is an independent risk factor, this is independent to other risk factors of CAD i.e. cholesterol, tobacco smoking, hypertension etc. So there remains to discuss how the homocysteine is important for genesis of atherosclerosis. The experimental evidences suggest that excess of homocysteine result in endothelial injury and dysfunction. The endothelial injury occur due to direct effect and indirectly by reactive oxygen species [ROS] i.e. oxidative damage. Homocysteine is rapidly auto oxidized and during oxidation, potent ROS i.e. super oxide, anion radical, hydroxyl radical and hydrogen peroxide are generated. This ROS are also responsible for lipid peroxidation and formation of oxidized LDL cholesterol which is potent atherogen. ROS directly injures to endothelium.

Due to vascular endothelial dysfunction, normal production of nitric oxide is deranged so there is no adequate vasodilatation leading to vasoconstriction and platelets aggregation. Endothelium is now vulnerable to homocysteine mediated oxidative damage.

Excessive damage of endothelium by homocysteine and ROS leads to severe endothelial injury and exposure of matrix which invite platelets accumulation, activation, aggregation and thrombus formation on exposed sub endothelial matrix. Homocysteine thiolactone, an oxidative product of homocysteine, combined with LDL-C to form aggregates and that are taken by intimal macrophages. These macrophages are converted into foam cells leading to development of atheromatous plaques. Homocysteine thiolactone promotes the proliferation of smooth muscles [mitogen] and fibrosis, activation of elastase, and calcium depositions.

Some coagulation abnormalities are also observed in hyperhomocysteinemia i.e. activation of factor XI and factor V, depression of activation of protein C, inhibition of thrombomodulin expression of tissue factor and suppression of heparin sulphate. All this leads to formation of thrombin and create a prothrombotic environment which facilitates local thrombus formation in coronary, cerebral and peripheral blood vessels.

Treatment of hyperhomocysteinemia

The treatment depends upon the cause. Dietary supplement of vitamins i.e. folic acid, pyridoxine and cobalamin are used to reduce homocysteine. The minimum effective pharmacological doses of these vitamins are 0.65 mg., 10mg. and 0.4mg./per day respectively. The optimum effective dose still remains controversial. Low dose folic acid i.e. 250 to 500 microgram per day was found to be adequate to reduce and maintain the normal level of homocysteine. Typically hyperhomocysteinemia is asymptomatic until the fourth or fifth decade of life when premature CAD suddenly develops. Further studies are required to establish the relationship between. Meanwhile a long term pharmacological prophylactic approach with vitamins is recommended. Now the question is should all patients with evidence of or risk of atherosclerosis be screened for hyperhomocysteinemia and if so at what level of homocysteine the treatment should be initiated.

In context to our country the cost of measurement [750 to 1000 RS.] per investigation, availability of laboratory facility & investigation, socio economical factors, cost benefit issues, influence the establishment of protocols and screening of this investigation. For the next years the new research and studies will reply the question. Meanwhile low dose folic acid, pyridoxine and cobalamin are effective inexpensive low risk pharmacological options to lower and maintain the homocysteine concentration in population at risk. In this context, long term prophylaxis with these drugs in Indian population requires further large studies to quantify the benefits and risk.

Now the question is should all patients with evidence of or risk of atherosclerosis be screened for hyperhomocysteinemia and if so at what level of homocysteine the treatment should be initiated. In context to our country the cost of measurement [750 to 1000 RS.] per investigation, availability of laboratory facility & investigation, socio economical factors, cost benefit issues, influence the establishment of protocols and screening of this investigation. For the next years the new research and studies will reply the question. Meanwhile low dose folic acid, pyridoxine and cobalamin are effective inexpensive low risk pharmacological options to lower and maintain the homocysteine concentration in

population at risk. In this context ,long term prophylaxis with these drugs in Indian population required further large studies to quantify the benefits and risk.

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Prevalence of pseudomonas Aeruginosa in wound infection.

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Wound infection mean deposition and multiplication of bacteria in tissue with an associated host reaction. The pseudomonas infection is a serious problem in immuno-

suppressed, neutropenic, debilitated and burns patients. They are highly resistant to disinfectant and antibiotics. *Pseudomonas aeruginosa*, an increasingly prevalent opportunistic human pathogen, is the most common gram-negative bacterium found in nosocomial infections. So very hard to control particularly in hospital environment. *P. aeruginosa* (family Pseudomonadaceae), an aerobic, motile, gram-negative rod able to grow and survive in almost any environment, lives primarily in water, soil, and vegetation.

Material and Methods:

Samples received from 1930 indoor and outdoor patients attending V.S. General Hospital were cultured and microbiological analysis was done from July 2004 to December 2004. Samples like pus, swabs, drain fluids and tissues were collected in sterile container from infected sites and received at laboratory and processed immediately using standard microbiological methods.(1). Any growth was identified by colonial characteristic and standard biochemical test. Anti-microbial test was performed by Kirby-Bauer Disc diffusion method as per NCCLS recommendation.(2)

Results :

Out of 1930 no of specimens, 246(12.7 %) showed *Pseudomonas aeruginosa*, out of them 65 females and 181 males.

Drug Sensitivity:

Name of drug Sensitivity Resistance

Ampicillin/Sulbactam 54(21.9 %) 192(78.1%) Co-trimoxazole 16(6.5%) 230(93.5%)
Cefotaxime 44(17.8%) (82.2%)

Piperacillin 79(32.1%) 167(67.9%) Chloramphenicol 26(10.5%) 220(89.5%)
Ciprofloxacin 92(37.3%) 154(62.7%) Ceftizoxime 16(6.5%) 230(93.5%) Tetracycline
15(6.0%) 231(94%) Ofloxacin 90(36.5%) 156(63.5%) Gentamicin 52(21.1%)
194(78.9%) Amikacin 81(32.9 %) 165(67.1%) Pefloxacin 44(17.8%) 202(82.2%)

Pseudomonas aeruginosa are susceptible to fluoroquinolones, like ciprofloxacin (37.5%), Ofloxacin (36.5%), followed by amikacin(32.9%) followed by piperacillin(32.1%). More than 80 % *pseudomonas* showed resistance to co-trimaxole, tetracycline, ceftizoxime, pefloxacin.

Discussion :

There is increasing concern regarding antimicrobial resistance in wound. Data are limited on the prevalence, pattern of resistance and risk factors associated with resistant organisms. This Study was done to address these issues as they relate to common infection of all age group. In our study we found multi-drug resistant *pseudomonas*.

Pseudomonas is a one of the most important microorganism which causes problems clinically due to multiple drug resistance.

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TRENDS IN SUICIDE

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Introduction :

Though life is very precious people end their life by their own. Ahmedabad city of Gujarat [India] is not an exception or different to this as suicide is a major psychological problem. Suicidal deaths coming for postmortem examination to the postmortem centre of Smt. N. H. L. Municipal Medical College, Ahmedabad were analyzed and presented in this paper.

Materials and Methods :

The postmortem centre of Sheth V S general hospital Ahmedabad situated in center of city fulfills the needs of Ahmedabad city & admitted patients in V. S. Hospital, mainly from periphery of the city and Rajasthan border area. The area covered is mostly urban including few rural parts. All the suicidal deaths coming for the postmortem examination to this centre were studied, the study being retrospective of the year 2003. Total 131 cases were examined as suicidal deaths.

Observations :

Out of total 893 cases for postmortem examination conducted 131 cases were found to be suicidal deaths. It was found that there was increased number and percentage of the deaths of suicides in relation to the total postmortem conducted. The males [555] overtook females [338] in all the year of study, but the female suicidal deaths were [18%] more in the comparison to males [12%]. The most affected age group for females was 21-30 years and next to it was 11-20 years in which the females (24 & 17) out numbered the males

Table I

MANNER OF DEATH

MANNER OF DEATH NO. OF DEATH MALE FEMALE HANGING 33 21 12

POISONING 58 33 25

BURNS 31 6 25

CUT WRIST 1 1 0

RAILWAY 2 2 0

JUMP FROM HT. 5 3 2

DROWNING 1 1 0

(22 & 12). The age of suicide found varying from 11 years to 82 years. The married males (42) and females (47) were more in number than unmarried ones. 2 males were unknown by their marital status. Males (13) females (20) came from rural areas on outskirts of city were less in number than their urban counterpart. Poisoning (58) and hanging (33) were the most adopted methods of suicide. Death due to burn as method of suicide (31) was a usual finding in this series. Railway run-over (2) and fall from height (5) were not so common, even though these methods were common earlier. Cut wrist suicide and death due to drowning cases found rarely (1-1 each). Suicidal cutthroat, firearm suicidal deaths were never committed in this part of state. Out of all the deceased 64 were treated in hospital before their death and 67 were brought dead. On further investigation out of 67 brought dead, relatives of 47 deceased had given reason(s) for committing suicide.

Discussion :

The females were less than the males that came for postmortem examination. So the female outnumbered the male in percentage of their total population in suicidal deaths.

The history of railway run-over and fall from height deaths was taken from relatives and so could be misleading. This study mostly depended upon the police and relatives' history regarding railway run-over and fall from height deaths to conclude the nature of death. So from the history we presumed suicidal deaths by these methods were less in this series. Moreover these cases might be treated as accidental cases instead of suicidal cases.

The death due to poisoning and hanging were most numbered in this series. Substance used for ingestion is easily available in the open market as pesticides. In case of hanging any household cloths like sari ,dupatta were converted in to ligature material.

The catchments area of the postmortems in this study being mostly urban in origin. The suicidal deaths from urban area outnumbered the rural area. This is because mainly city police stations were included in college jurisdiction.

As lake and river are usually dry throughout the year so suicide by drowning is comparatively too less.

Conclusion :

From the above observation it can be concluded that the women of urban origin who were married commit suicide mostly by hanging or insecticidal poisoning in this part of state mainly due to stress and strain and rising competition in study & of life which is increasing year by year. Death due to burn is most preferred method to commit suicide in female [39% of female suicides] and correlates mostly with dowry in rural area. In about 50% of incidences of suicidal death in males poison was used.

HERB-DRUG INTERACTIONS

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Herbalism (also called phytomedicine or botanical medicine) is the medicinal use of plants or plant constituents. The use of plants as medicine predates even human evolution; great apes have been noted to consume specific medicinal plants when they are ill [1].

Herbal medicines are the oldest remedies known to mankind. Herbs had been used by all cultures throughout history but India has one of the oldest, richest and most diverse cultural living traditions associated with the use of medicinal plants [2].

Herbal preparations are viewed by many as natural and therefore safe. This has in part, led to the rapid increase in the number of people using such products. It has been estimated that there was a 380% increase in the use of herbal preparations between 1990 and 1997 in the United States of America (USA) alone. However, the increased usage has also brought to light a number of problems associated with these apparently safe herbal preparations. [3].

Herbal medicines have become a popular option in healthcare. In India many herbal preparations are available in the market that contain single or multiple herbal ingredients, for examples, GARLIC PEARLS (garlic), BILOVAS (ginkgo biloba), BIOVITAL (ginseng), AJAR (ashwagandha, guduchi & others), ATTENTIO (brahmi, ashwagnadha & others) etc. [4]. The seven best-selling herbal medicines in USA in the year 1998 were ginkgo, St John's wort, ginseng, garlic, echinacea, saw palmetto and kava. There is growing evidence for the efficacy of these herbal medicines. However, safety issues

associated with these treatments remain under-researched. The fact that herbal medicines are associated with adverse events is widely appreciated. Another area destined to gain importance is that of herb-drug interactions. As most herbal medicines are mixture of more than one active ingredients, in many cases it is uncertain which or how many constituents are pharmacologically important. The multitude of active ingredients obviously increases the likelihood of interactions. Because users of herbal medicines tend to have chronic conditions for which they often take prescribed drugs concomitantly, interactions are likely. Despite the widespread use of herbal medicines, documented herb-drug interactions are sparse [5].

REPORTED HERB-DRUG INTERACTIONS

GARLIC (*Allium sativum*) is being promoted to lower cholesterol and blood pressure, delay atherosclerotic processes and improve circulation. It has complex cardiovascular effects including antiplatelet activity. Two case reports suggested that concomitant use of warfarin and garlic was followed by an increase in INR (international normalized ratio). Other case reports highlighted its potential for increasing the risk of postoperative bleeding. A clinical trial suggested that garlic changes some pharmacokinetic variables of paracetamol after 1 to 3 months' treatment. The precise mechanism of this interaction is presently not known [4]. Garlic may reduce the bioavailability of saquinavir, an antiviral, protease inhibitor, but it does not affect the bioavailability of ritonavir [6].

GINKGO (*Ginkgo biloba*) is used mainly for memory loss, Alzheimer's disease and circulatory disorders. It also has antiplatelet activity and is platelet activating factor receptor antagonists. Two case reports demonstrate that patients taking warfarin or aspirin have experienced severe spontaneous bleeding after self-prescribing ginkgo at recommended doses. Spontaneous bilateral subdural haematomas associated with long term ginkgo ingestion have been reported. A patient with Alzheimer's disease fell into coma after taking a combination of trazodone and ginkgo [5].

GINSENG (*Panax ginseng*) is marketed for a wide range of indications with tentative evidence in support of its efficacy. Case reports of suspected interactions with warfarin and monoamine oxidase inhibitor (MAOI) phenelzine have been reported. In the former case, a decrease of INR was noted but because the patient took several other drugs concomitantly, causality is uncertain. In the latter cases, the patient experienced insomnia, headache, tremulousness and mania; causality is likely because inadvertent rechallenge resulted in similar symptoms. Ginsenosides, one of the active ingredients of ginseng, inhibits cyclic adenosine monophosphate (cAMP) phosphodiesterase and thus increase cAMP levels. This effect may account partly for its psychoactive central effect both alone or in combination with MAOIs. However, the exact mechanism requires further study. Ginseng has also been reported to decrease plasma alcohol concentrations in mice by delaying gastric emptying with ginsenosides being responsible for this phenomenon. The effect could explain the ginseng-induced enhancement of blood alcohol clearance noted in one clinical study [5].

ASHWAGANDHA (*Withania somnifera*) may potentiate barbiturates, avoid with sedatives and anxiolytics. Due to the diuretic action of this herb the following drug interactions are possible: increased risk of toxicity with anti-inflammatory analgesics; if hypokalemia occurs possible antagonism with antiarrhythmics and potentiation of muscle relaxants; may potentiate and/or interfere with antihypertensives; may potentiate lithium therapy; when taken with corticosteroids there is a risk for hypokalemia; may potentiate other diuretics and increase the risk of hypokalemia, antagonizes antidiabetic (hypoglycemic) drugs.

Due to the antihypertensive (hypotensive) action of this herb the following interactions are possible: when taken with anesthetics an increased hypotensive effect; potentiation of antihypertensives; antagonism of sympathomimetics; when taken with diuretics difficulty with diuresis and hypertension may result [7].

BRAHMI (*Bacopa moniera*): An animal study found that the effects of chlorpromazine were enhanced when a bacopa extract was given along with it [8]. Since high doses of brahmi can cause sedation, individuals should refrain from taking this herb with medications that promote sleep or reduce anxiety. Bacopa may potentiate the effect of barbiturates; require reduction of their dose [9]. The neuromuscular relaxing action of Brahmi may be enhanced by the use of certain aminoglycoside antibiotic. Brahmi should not be used with mithotrimeprazine, a potent CNS depressant analgesic. Results of one animal study on drug interactions of MEMORY PLUS and MENTAT (Brahmi one of the active ingredient in both of these drugs) with other drugs show that both the drug have potential for increasing the action of diazepam (CNS depressant), morphine (analgesic) and phenytoin sodium (anticonvulsant)[10].

GUDUCHI (*Tinospora cordifolia*) may potentiate antidiabetic (hypoglycemic) drugs. Due to the diuretic action of this herb the following drug interactions are possible: increased risk of toxicity with anti-inflammatory analgesics; if hypokalemia occurs possible antagonism with antiarrhythmics and potentiation of muscle relaxants; antagonizes antidiabetic (hypoglycemic) drugs; may potentiate and/or interfere with antihypertensives; may potentiate lithium therapy; when taken with corticosteroids there is a risk for hypokalemia; may potentiate other diuretics and increase the risk of hypokalemia [11].

KAVA (*Piper methysticum*)(widely used in USA) is an effective herbal anxiolytic. An interaction with alprazolam apparently caused a semicomatose state in one patient. Kava might have additive effects with benzodiazepines; both act on the same receptors and on the same areas of the CNS with increased GABA receptors. Kava possesses dopamine antagonistic properties, and cases of patients developing clinical signs suggestive of central dopaminergic antagonism have been described. The dopamine antagonistic properties of kava could explain the increase in the duration and number of 'off' periods in a patient with parkinson's treated concomitantly with levodopa. The hypnotic action of both alcohol and kava has been shown to increase when administered in combination in mice [5].

ST. JOHN'S WORT (*Hypericum perforatum*)(widely used in USA) is effective for mild to moderate depression. In addition to the enzyme-inducing properties of St. John's wort, other evidence indicates that flavonoids contained in St. John's wort raise the activity of P-glycoprotein, which, in turn, increases the elimination of drugs. Probably via these mechanisms it has been shown to reduce the plasma concentrations of warfarin, oral contraceptive pills (OCP), digoxin, cyclosporin, amitryptiline, theophylline and the protease inhibitor indinavir. When given in parallel with other SSRIs (sertaline, paroxetine) or serotonin noradrenaline reuptake inhibitors (nefazodone), St. John's wort can cause symptoms of central serotonin excess (serotonin syndrome). A brief episode of acute delirium, possibly induced by exposure to St John's wort and loperamide has also been described [5].

EPHEDRA (*Ma-haung*) may increase steroid clearance; it may reduce the effectiveness of prednisone [12].

FEVERFEW patients taking anticoagulant and antiplatelet drugs should use feverfew cautiously because the herb may inhibit platelet aggregation [6].

All pharmacologically active herbal extracts are associated with varying degrees of toxicity in their own right. Often case reports do not allow a clear distinction between adverse events due to toxicity and those caused by herb-drug interactions. These limitations amount to a significant challenge for further research in this area. Herb-drug interactions are a reality and can present a serious threat to human health. Healthcare professionals should be aware to this potential and should ask their patients about the use of herbal products. Researchers should strive to fill the numerous gaps in the present understanding of this problem [5].

Inadequate reporting makes it difficult to determine whether a herb-drug interaction has occurred. In many cases there is no plausible mechanism to explain the observed phenomena and causality is uncertain [13].

TABLE-1: HERB-DRUG INTERACTIONS AND THEIR EFFECTS

HERBAL DRUG PRESCRIBED DRUG EFFECT DUE TO INTERACTION

Garlic Warfarin Increase INR, increase risk of postoperative bleeding

Garlic Paracetamol Changein pharmacokinetic variable of paracetamol

Garlic Saquinavir Reduce bioavailability of saquinavir Ginkgo Warfarin,Aspirin Spontaneous bleeding Ginkgo Trazodone Coma Ginseng Warfarin Decrease INR Ginseng Phenelzine Insomnia, headache, mania Ginseng Alcohol Enhancement of blood alcohol clearance Ginseng Influenza vaccine -- Ashwagandha Barbiturate, Potentiation of Antiinflammatory drugs by

Analgesic, action of these

Muscle relaxant, ashwagandha

Antihypertensive,

Lithium Ashwagandha Antiarrhythmic,

Hypoglycemic,

Diuretic, Sympatho-

Mimetics Antagonism of action of antiarrhythmic Ashwagandha Corticosteroids Increase risk of hypokalemia Ashwagandha Anesthetic Increase hypotensive effect Brahmi Chlorpromazine Enhancement of effect of chlorpromazine Brahmi Sedatives Increase sedation Brahmi Aminoglycosides Neuromuscular relaxing effect of brahmi is enhanced Guduchi Hypoglycemic Potentiation or antagonism of effect of hypoglycemic drugs Guduchi Anti-inflammatory,

Muscle Relaxant,

Antihypertensive,

Lithium Potentiation of action of these drugs by guduchi Guduchi antiarrhythmic Antagonism of effect of antiarrhythmic Guduchi Corticosteroid Increase risk of hypokalemia Kava Alprazolam Semicomatose state

Kava Alcohol Increase hypnotic action

Kava Levodopa Increase duration and number of 'off' period in a patient with parkinsonism St John's wort Warfarin, OCP,

Digoxin, Cyclosporin,

Amitriptyline,

Theophylline, Indinavir

Increase elimination and reduce plasma concentration these drugs by St John's wort

St John's wort SSRI Serotonin syndrome

St John's wort Lopramide Acute delirium Ephedra Steroids Increase steroid clearance Feverfew Anticoagulant,

antiplatelet Increase risk of bleeding

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ETHICS IN SURGICAL PRACTICE

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Surgical ethics may generally be considered as a special form of the ethics that applies to medicine in general. McCullough et al. show in their book, 'Surgical Ethics'¹ how to apply principle based ethics to surgical practice, and comment on special considerations surgeons may have to bring to bear on issues such as informed consent, confidentiality, emergencies, dying patients.

Yet some surgeons have complained that, for all its excellence, there is something missing. We think that they are registering absence of the voices and narratives of those who practice surgery and those who experience it. Surgeons and their patients are aware of the extraordinary nature of the surgical experience. Surgeons inflict a very particular kind of physical trauma in order to achieve something good. It is this trauma that distinguishes surgery from other medical endeavors. The surgeons make his or her way through the body's coverings on a scale unlike that of colleagues in other disciplines, such as interventional radiology. He or she relies on the wisdom of the body to heal wounds inside and outside more than colleagues in other specialties. Ethics are about relationships and choices, and surgical relationships are defined by five characteristics that, while they may be present to some degree in other medical transactions, reach a special intensity in surgery^{2,3}. They are (1) rescue, (2) proximity, (3) ordeal, (4) aftermath and (5) presence.

Rescue

Most people dread having operations. The physical assault, the breaching of the body's coverings, the pain, disability and risks are all things to be avoided if possible. Even minimal access surgery carries these connotations. If you seek surgery, therefore, you must perceive that you have or may develop something so threatening to your life, in its quantity or quality, as to justify the assault of the surgery. You must in short, seek a traumatic remedy in the face of a serious threat.

Proximity

By asking a surgeon's help, a patient enters a relationship of proximity like no other. By the end of the surgery, the surgeon will know things about the patient's body that are hidden from the patient. He or she will have seen some way inside that body, and have observed its responses to injury and disease in ways that even the patient cannot share. This is not intimacy, which is mutual but proximity, and it is an unbalanced and privileged relationship, which can easily be abused if it is not acknowledged.

Ordeal

The surgical encounter is an ordeal. It involves pain anaesthesial loss of autonomy, and constraints on space and time. It involves helplessness and dependence. It is something to be endured.

Aftermath

Surgical procedures leave scars, both on and in the body, and in the psyche. Bodily scars, stomas, stiffness persistent discomfort and recurrent symptoms all serve as reminders of past or present illness, risk and threat. The survivors of the serious illness such as cancer carry psychological burdens from which they may never be free. The burdens of survivorship may be lifelong⁴.

Presence

What patients want more from their surgeons is their presence. People want their surgeon to demonstrate his or her commitment to a caring role by being there, aware of and responsive to the discomforts and fears attending illness and surgery. Surgeon's presence - on rounds, visits, by telephone calls - is a reassurance and a support. Presence is both a virtue and a duty, and it can be taught.

A surgical ethics

We suggest that an ethics of surgery can be constructed from an understanding of what goes on between those who experience surgery and those who practice it. Surgery creates extraordinary relationships between those who receive it and those who perform it. Understanding some of the peculiarities and intensities of that relationship helps us to get inside the vulnerabilities of our patients, and perhaps to understand something about our own vulnerabilities⁵. Even surgeons dread having surgery. Acknowledging the need for rescue, the inevitability of the relationship of proximity, the nature of the ordeal of surgical experience, the potential seriousness of the aftermath of surgery, and the patient's need for the surgeon's presence throughout the illness and beyond, will help us as surgeons to establish and maintain trust and a relationship of care with patients who are particularly vulnerable.

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Prevalence of Methicillin Resistance in Staphylococcus Aureus

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The emergence of antibiotic resistant organisms and their spread in the community has been a subject of increasing concern in recent years. Methicillin resistance in Staphylococcus Aureus (MRSA) first appeared in 1961. Since then there have been many reports of MRSA causing various infection through the world and there is now an awareness of this as a potentially dangerous pathogen. Hence a knowledge of the prevalence of MRSA and their antimicrobial profile becomes necessary in the empirical treatment of these infection.

Material and Method :-

A total of 277 strains of Staphylococcus isolated from various clinical specimens from V.S.General Hospital were studied. These strains were identified by conventional method in coagulase negative Staphylococcus and coagulase positive Staphylococcus (staphylococcus aureus). Antibiotic sensitivity is done by Disc Diffusion method. These strains were tested for Methicillin resistance by Standard NCCLS guidelines.All the methicillin resistance Staphylococcus is tested for vancomycin sensitivity.

Results :-

Out of 277 isolates of Staphylococcus, 195 strains were coagulase positive and 82 were coagulase negative. A total of 70 (35.89%) of the coagulase positive Staphylococcus strain shows resistance to Methicillin and 16 (19.51%) coagulase negative strains showed Methicillin resistance.Out of the 195 coagulase positive Staphylococcus 177 strain (90.76%) were sensitive to Ampicilline/Sulbactam and they are highly resistant to co-trimoxole with only 65 strain (33.3%) were sensitive to it. In coagulase negative Staphylococci 79 strain (96.34%) were sensitive to Ampicillin/Sulbactam and least sensitive to co-trimoxole with 26 strain (31.70%).The sensitive pattern to other antibiotics to Staphylococcus are given in the table.

All the Methicillin resistant Staphylococci are sensitive to Vancomycin in our hospital.

Short form of Antibiotics used :

AS : Ampicillin/Sulbactim BA : Cotrimoxazole PR : Cephalexin

TE : Tetracycline CF : Cefotaxime CP : Ciprofloxacin

PF : Pefloxacin OF : Ofloxacin CX : Cloxacillin

RF : Rifampin LM : Lincomycin GM : Gentamicin

OX : Oxacillin VA : Vancomycin **Discussion :-**

The present study highlights the problem of MRSA and resistant of staphylococci in our hospital. The prevalence of MRSA was 35.89%,19.51% in coagulase negative Staphylococci. This is comparable to other studies in our country,(1,2). Isolation of coagulase negative Staphylococci and antibiotic sensitivity patterns are regarded with all seriousness in clinical practice and clinical epidemiology, because these strains are not only resistant to multiple antibiotic, but also act as a reservoir for drug resistance gene,(3). Hence, there is a need for constant monitoring of prevalence of MRSA and its antimicrobial resistance pattern. The data resulting from such studies will help the clinicians in effective treatment of Staphylococcal infection.

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KAP study of doctors regarding filling up
of the medical certification of cause
of death (MCCD) at a teaching hospital in Gujarat.

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Abstract :

Objective: To study the Knowledge, Attitude and Practice of doctors regarding filling up of the Medical Certification of Cause of Death (MCCD). Study design: Cross sectional. Participants: Doctors who have filled up MCCD forms Place of study: Department of Community Medicine, Government Medical College, Surat Sample Size: 57 doctors Statistical analysis: Proportions. Results: About half (50.9%) of the doctors have received training. Wherever 89.5% doctors expressed the requirement of training. Only 14% doctors expressed suggestions for some modification in the MCCD forms. One-third doctors (31%) knew all the 3 terms viz. definition of Immediate, Antecedent and Underlying causes of death. In spite of this, 56.0% doctors were satisfied with the completeness and accuracy of the MCCD forms, which were filled up under their guidance.

Key words: Medical Certification of Cause of Death, Death Certificate, KAP study,

Introduction:

"Death certificate is a permanent record of an individual's death." One purpose of the death certificate is to obtain a simple description of the sequence or process leading to death rather than a record describing all medical conditions present at the time of death.¹ Accurate death certification is very important, as in one study more than 50 percent of general practitioners felt that they were not sufficiently instructed about death certification.² Most physicians do not receive formal training in determining the cause and manner of death but are simply given this responsibility during residency training. Problems may arise if someone other than the primary physician is made responsible for death certification. Proper death certification is not time-consuming unless the death was unexpected or occurred under unusual circumstances. The value of accurate statements of cause of death cannot be overemphasized.³ The Government of Gujarat has also started putting special effort since year 2002 to improve the quality of MCCD forms. That is why this study was carried out to know the knowledge and practices of doctors who are filling up MCCD forms.

Material and Methodology:

To evaluate the knowledge, attitude and practices (KAP) and the requirement of training for filling up of MCCD forms, questions were asked, in the form of questionnaire, to the doctors of different departments of a big teaching hospital of Gujarat State including few private practitioners of the city who have issued death certificates in the past. Most of the respondents' chosen were resident doctors as they routinely fill up most MCCD forms. Few senior medical officers were also interviewed who had performed postmortem during their past posting. The data were collected in a period of one month from December 15th, 2003 to January 14th, 2004. The questionnaires were personally handed

over by the investigator to collect the information. The data were analyzed with the help of software EpiInfo ver. 6.04b.

Observations:

Though 29 (50.9%) doctors had received training but on inquiry 89.5% of the respondents were of the opinion that there is need of proper training for filling up of MCCD forms. On further inquiry about the MCCD forms, 86.0% doctors expressed that there is no need of any modification of forms. But, 14.0% doctors felt that there is need of modification in MCCD forms to make entry easier.

It was observed that 66.7 % of the respondents knew correct definition of immediate cause, 54.4 % knew antecedent cause and also underlying cause. (Table 1) Further analysis of data revealed that only one third (31.6%) of the respondents knew correct definition of all the three causes of death.

Table 1. Distribution of respondents according to their correct knowledge about cause of Death.

Cause of death Respondent who described correctly.

(n=57)

No. %

Immediate cause 38 66.7

Antecedent cause 31 54.4

Underlying cause 31 54.4

All above three 18 31.6

It was found that 19.3% of doctors faced difficulty in filling up of MCCD forms. Almost similar proportions (22.8 %) were unable to express any difficulty in the filling up of forms. These were the doctors who either routinely filled or had filled MCCD forms in the past in their department.

Though only one-fifth of the respondents (19.3%) told that they faced difficulty while filling up MCCD forms. These doctors were further enquired about the type of difficulty they came across while filling up of MCCD forms. About three-fourth doctors (72.7%) mentioned that at times it is hard to conclude the exact cause of death. Three doctors (27.3 %) further expressed that in their routine practice, many times the certifying doctor has to refer case paper at the time of issuing MCCD forms and if the case papers were incomplete, they found it difficult to fill up MCCD forms.

It was found that nearly half (56.1%) of the doctors were satisfied with the accuracy and completeness of the death certificates filled up in their hospital. Around one-fourth (28.1%) of the doctors were not satisfied with it and 15.8% doctors were unable to express their opinion on accuracy and completeness.

Table 2. Perception of respondents about the accuracy and completeness of MCCD forms

Respondent's perception

for accuracy and completeness Respondents

No. % Satisfied 32 56.1

Not satisfied 16 28.1 Unable to answer 9 15.8

Total 57 100.0

Discussion:

Accurately filled up MCCD forms can supply very crucial information to the planners and administrators. It can provide a feedback about the pattern of morbidity prevailing in that area. This information can be utilized properly for the preparedness to implement in future specific type of preventive and curative health services in that area. On the contrary, if the MCCD recordings are poor, then the whole exercise will remain a useless effort as the reliability of information will always remain questionable. Recently, in the year 2002, the Gujarat Government showed intention towards the improvement of the quality and reliability of the MCCD recordings.

That is why this study was carried out in the year 2003-2004 to know the knowledge and practice of filling up of MCCD forms at a big teaching hospital in Gujarat State. In routine practice mostly residents fill up MCCD forms, so majority of respondents were residents, however, 10 senior Medical Officers of more than 15 years of service, who had served at various PHCs of Gujarat State, were also interviewed. Three doctors from private sectors were included to find out any major gap of knowledge between private and public setup. In this way 57 doctors were interviewed but the information gathered were found similar and not much difference was noted among different categories of doctors. Hence, the analysis carried out without classifying them as most of the time, they all expressed similar opinions regarding MCCD form. However, they all provided much important information that may be utilized in the planning of the future actions to improve the quality of information available in the MCCD forms of different hospitals of Gujarat State.

Maudsley and Williams (1993) in their study assessed the knowledge, attitudes and behavior of 174 House Officer and of 131 General Practitioners.² Messite, Jacquiline, Stellman and Steven (1996) in their study interviewed a total of 12 practicing general

internists, 21 internal medicine residents, and 35 senior medical students to assess the extent to which accuracy of death certificate completion varies with level of physician training and experience.⁵

About 89.5 % doctors in this study expressed the need of training to fill up MCCD forms. Maudsley and Williams (1993), in their study reported that 46.2 per cent of House Officers had not read the death certificate book instructions.² He, therefore, concluded that better and co-ordinate undergraduate and early post-graduate education (which should be continuing and audited), and practical accessible guidance on death certificate completion, might improve standards of practice and performance within the existing framework. It seems that the time has come to explore an alternative methods of presenting guidance on death certificate completion. Myers and Farquhar (1999) also interpreted in their study that the accuracy of death certification could be improved with the implementation of a simple educational intervention.⁶ The doctors were also of the similar opinion in this study.

Respondents were asked about the definition of immediate, antecedent and underlying cause of death. The analysis revealed that 66.7%, 54.4% and 54.4% doctors respectively could explain correctly for immediate, antecedent and underlying cause of death. But only one-third respondents (31.6%) could explain all the three terms related to the cause of death. Maudsley and Williams (1993) also observed that knowledge was variable, especially concerning underlying cause of death. Written cause of death statements were broadly similar in style and standard between House officer and General Practitioners.² He could not see any difference among different categories of doctors as was also noted in this study.

The doctors who filled MCCD forms in their department were further asked about any difficulty in the filling up of MCCD forms. Eleven doctors (19.3%) agreed as they faced difficulty in filling up of MCCD forms. Almost similar proportions (22.8 %) were unable to answer this question. (table 3). These doctors were further enquired about the type of difficulty they came across while filling up of MCCD forms. About three-fourth doctors (72.7%), out of 11, mentioned that at times it is hard to conclude the exact cause of death. As only one-third doctors understood all the three terms related to the cause of death, it seems that if they are trained and clearly explained different terms, they may find it easy to fill up the MCCD forms. Maudsley and Williams (1996) has also concluded in their study that there was a need for reoriented thinking rather than just urging more education. Evidence based educational interventions are needed.³

Three doctors (27.3 %) had expressed that many times they had to refer case paper to interpret different cause of death. And if case paper is incomplete then it really becomes difficult for them to fill up proper information into the MCCD forms (table 4). Sometime the certifying doctor do not get WHO certificate and this only requires attention of administrators to check the regular supply of the MCCD forms in the hospital..

In spite of many lacunae in the filling of the MCCD forms, nearly half (56.1%) of the doctors were satisfied with the accuracy and completeness of the death certificates being

filled up in their teaching hospital. Around one-fourth (28.1%) of the doctors were not satisfied with it and 15.8% doctors were indifferent about the accuracy and completeness of MCCD forms.

The quality of MCCD form can be improved by organizing training and refresher training after every 2 to 3 years of interval. The hospitals must also implement a system of regular internal audit by peer groups with regular feedbacks to the doctors of the hospital who are filling up the MCCD forms. The feedback regarding the improvement of the quality of MCCD data will enthuse them. The people who write the certificate may also be told that they are accountable for the certificates. The system of regular feedback may play an important role. As each one of the doctor will realize the importance of these MCCD forms on getting the feedbacks from the team of peer members after their evaluation exercise. As per the information available, it was noted that at present no feedback is provided to the issuing doctors in any of the hospital in Gujarat. However, a multi-centric study at different hospital of Gujarat State may be carried out to understand the problem at wider perspective and then a suitable strategy may be planned in the whole state for improvement of the recordings of the MCCD forms.

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Seroprevalence Of HIV in STD Patients.

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Surveillance of Sexually Transmitted Diseases [STD] constitutes an important component of prevention and control of HIV/AIDS. It is now established that the presence of Sexually Transmitted Diseases [STD] increases the risk of HIV transmission by 3-10 times.

The present study was conducted at Smt. N.H.L. Medical College and Sheth V.S. General Hospital, Ahmedabad during 2 years-from January 2003 to December 2004.

Five hundred thirty five patients [417 males, 118 females] with clinical symptoms of genital ulcers & / or discharge, burning micturition, inguinal bubo, warts, muscle, papule and vesicles attending STD clinics were studied. Age range was from 6 months to 78 years

The blood samples from all patients were tested by Enzyme Linked Immunosorbent Assay with commercially available test kits. Reactive samples were retested with a test of different principle &/or antigens. In this sero surveillance study, WHO strategy II was followed.

Out of 535 STD patients who were screened, 25 [4.67%] were found positive for HIV. 22 [88%] were males and 3 [12%] were females. Highest HIV seroprevalence in STD patients in the age group of 33-44 years. Literacy status, marital status and occupational details were recorded. Among all STD patients, 110 [20.5%] patients were illiterate, 84 [15.7%] patients studied till 5th standard, 286 [53.5%] patients studied up to 12th standard and 55 [10.3%] patients were graduate. Highest number of positivity was in 8 [7.27%] patients who were illiterate. Marital status was studied. Highest seroprevalence [33.3%] was noted in persons who were either widow, widower or divorcy. Occupational analysis was done in all patients attending STD clinics. Analysis based on unskilled worker, agriculture worker, driver, cleaner, hotel staff, service, business man, unemployed, retired, student and housewife. Maximum number of patients attending STDclinics were in field of agriculture and unskilled worker i.e. 162 [30.2%]. But seroprevalence was highest 7.69% among driver and cleaner. As per detailed clinical history and examination, the cases were diagnosed as candidiasis, gonorrhoea, warts, herpes zoster, syphilis, molluscum contagiosum, condyloma, chancroid, urethritis etc.,

Highest no. of cases were of herpes zoster i.e. 133 [24.8%].

Seropositivity was high in patients of candidiasis [11.1%] and herpes zoster [9.02%].

Screening for HIV antibody prevalence in STD clinic is likely to help in the understanding of the reality of the spread of HIV infection. Since STD and HIV are

closely interlinked early diagnosis, treatment and control of STD offers a rational approach to the control of HIV. Seropositivity in the younger age group highlights the need for early sex and health education.

Thyroid - Pathological Senario

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Introduction & Objectives

Diseases of the thyroid are of great importance because most are amenable to medical or surgical management.They include conditions associated with excessive release of thyroid hormones (hyperthyroidism),those associated with thyroid hormones deficiency (hypothyroidism) and mass lesions of thyroid.

The thyroid gland is affected by a variety of pathologic lesions that are manifested by varied morphology.Despite the large number of lesions ,it is convenient to consider them as divided into major type based on their pathologic manifestation .Those that show diffuse pattern and those that produce nodules.

Ø Diffuse lesions include such as hyperplasia, thyroiditis and some malignancies.

Ø Nodular lesions command a great deal of attention because carcinoma has to be differentiated from benign lesions e.g. nodular hyperplasia,simple cysts,foci of thyroiditis or benign neoplasms.

Ø Congenital anomalies e.g. thyroglossal duct or thyroglossal cyst.

Objectives

- 1) Surgical assessment of thyroid lesions whether it is non neoplastic or neoplastic.
- 2) If neoplastic,benign or malignant.
- 3) Management of patient.

Material & Methods

All the biopsy specimen of thyroid lesions were reported in the period from january 2001 to December 2003.Study of 3 years at V.S.G.H.

Gross specimen either total thyroidectomy or subtotal thyroidectomy were received in histopathology department & serially sectioned. The sections were formalin fixed routinely processed, stained by Hematoxyline and eosin and studied by light microscroscopy. Total number of cases were 128.

Observations

We have received 128 biopsy specimen out of which 105 were female & 23 were male.

Table -1

No. Correlation of Histopathological diagnosis Number of cases 1 Thyroglossal cyst & fistula 8

2 Thyroiditis 14

3 Goitre + nodular goitre with cystic change 39

4 Adenomatous nodule 20

5 Follicular adenoma 16

6 Follicular carcinoma 4

7 Papillary carcinoma 7

Ø Follicular variant of papillary carcinoma arising from adenomatous nodule 16

Ø Micropapillary carcinoma 4 27

Table -2 : Number of cases per year with incidence in male and female

Year Male Female Total

2001 6 40 46

2002 7 32 39

2003 10 33 43

Total 23 105 128

Total Benign / Percentage Malignant / Percentage 128 97 (75.80) 31 (24.2)

Table -3 : Benign and malignant lesions

Histopathological finding of lesion

Thyroglossal cyst

Microscopically

The cyst is lined by Pseudostratified ciliated or squamous epithelium.

Mucous glands and thyroid follicles are commonly seen in stroma.

Hashimoto's thyroiditis

Microscopically

Small and atrophic thyroid follicles with a lining of hurthle cell having large hyperchromatic nuclei and abundant eosinophilic cytoplasm.

Stroma reveal lymphocytic infiltration with lymphoid aggregates or lymphoid follicles.

Nodular goiter / colloid goiter

Macro and microfollicles of varying sizes with a lining of flattened epithelium & filled with colloid. Cystic change is seen. Stroma reveal

lymphocytic infiltration in few cases.

Follicular adenoma

The neoplastic cells are demarcated from the adjacent parenchyma by a well defined intact Capsule.

Variety of patterns, singly or in combination-

Normofollicular, Macrofollicular, Microfollicular (fetal), Solid (embryonal), Trabecular, Atypical, Hurthle cell

Papillary carcinoma

Papillae usually complex branching with central fibrovascular core and single or stratified lining of cuboidal cell.

Ground glass nuclei (clear),overlapping and groove with inconspicuous nucleoli.

Psammomatous bodies.

Variants

Papillary Microcarcinoma

Papillary carcinoma 1 cm or less diameter encapsulated tumor.

Follicular Variant

Presence of angulated follicles having ground glass nuclei and filled with viscous colloid arising from adenomatous nodule.

Follicular Carcinoma

Fairly uniform cells forming small follicles containing colloid or nests or sheets of cells without colloid.

Capsular & Vascular invasion

Discussion

Total biopsy specimen received from V.S.G.H within 3 years were 128.

Patients had either diffuse enlargement or solitary thyroid nodule.

In our study age ranging from 1st to 8th decade & Sex ratio M : F - 1 : 4.6

Most of thyroid solitary nodules were between 2nd to 4th decade.

In our study Follicular variant of papillary carcinoma arising from adenomatous nodule were more in number.

Conclusion :

In our study out of total 128 cases nodular goiter is most common benign lesion. (30.5%)

Solitary thyroid nodule is more common between 21 to 50 years with female predominance.

Micropapillary carcinoma - Prognosis is excellent. Follicular variant of papillary carcinoma arising from adenomatous nodule are increasing in number with diagnostic aids. Prognosis is very good with surgical treatment.

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ECCLAMPSIA, A CURSE, AT THE TURN OF CENTURY

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Introduction

Ecclampsia and PIH are one of the five foremost causes of maternal death, in the developing countries. The developed nations have brought down the world wide incidence of Ecclampsia from 0.5% to 0.2%; we continue to lose mothers and neonates as a complication of severe PIH and Ecclampsia,. The study was thus carried out to understand the magnitude and impact of Ecclampsia in an urban population in the vicinity of a tertiary care centre.

Abstract

100 cases of Ecclampsia, managed at our institute in 1999 and 2000 are include in the study. The incidence of Ecclampsia was 0.76%of all hospital deliveries-90% cases were unregistered and had not attended any antenatal clinic-72% women were primigravidae-86% women were less than 26yrs of age-82% women belonged to lower socio-economic group-80% women were moderately to severely anemic-2% maternal mortality due to Ecclampsia was noted.

Neonatal mortality was 14% and over all prenatal mortality was 27%.

Aim

- To study the incidence of eclampsia in hospital deliveries conducted at our hospital in yrs 1999- 2001.
- To study the impact of Eclampsia on maternal and perinatal morbidity and mortality.

Methodology

- 100 patients were admitted to labour ward at V.S.Gen. Hosp..
- Standard protocols including detailed history taking, examination, supportive treatment, investigations anticonvulsants and antihypertensive treatment were followed.
- Definitive treatment in terms of delivery of fetus, considering all maternal and fetal parameters and response to treatment was carried out.

Results

- 100 cases of Eclampsia were admitted at our institute from Jan. 1999 to Dec. 2001.
- Out of total 13050 hospital deliveries, 100 cases of Eclampsia were treated bringing the incidence to 0.76%.
- Out of 100 Eclamptic women 90 women had no antenatal care and were emergency cases.
- 10 women had registered antenatally, 7 had not made subsequent visits. 3 women were advised hospitalization for PIH but did not turn up.
- 72 women were primigravidae. 70 out of them were younger than 26yrs.
- 11 cases were teenage pregnancies, the youngest was 16 yrs old.
- 20% women were gravida 2 and 8% women were gravida 3 or more.
- 82% women belonged to lower socio-economic class-none of them had registered antenatally.
- 4 out of the 18 multigravidae had a past history of PIH in the first pregnancy. None of them had attended the antenatal clinic.
- 2 women had past H/O of eclampsia and they were also emergency cases.

- 53% patients were cases of antenatal eclampsia , 30% were intranatal cases, 16%women developed eclampsia post-natally, 1%woman had intercurrent eclampsia
- 13 women had diastolic blood pressure less than 90 mmHg.
- 12 women had systolic blood pressure of 140mmHg and lower.
- 90% women had mild to moderate proteinuric. Only 10 women were non-proteinuric.
- 6 women had severe anemia, 74 women had mod. anemia (Hb 6.5-8.5 gm%), 20 women were mildly anemic.
- 24% women delivered by LSCS,4% delivered by operative vaginal delivery.
- 71% women delivered vaginally.

Complications %

Pyrexia 10

Visual disturb 6

UTI 20

Oliguria, anuria 4

Pulm-Edema 4

Severe anemia 6

CVA -

Death 2

Fetal OutCome No. of cases

IUD 9

SB 4

Premature live birth 21

Mature live birth 65

Neonatal mortality 14

Perinatal mortality 27

Discussion

- In the present study of 100 cases of eclampsia, the incidence was 0.76% of hospital deliveries during 1999-2001.
- The incidence of eclampsia has markedly reduced in the developed countries, but in India, the incidence is quite high varying from 0.5% to 1.8%
- Dr. P. Nobis reports an incidence of 1.85% from Silchar Assam.
- The young primigravidae from lower socio- economic class constitute the major chunk of eclamptic patients.
- Early child birth, illiteracy and indifference to antenatal care and poverty contribute as major factors responsible for the same.
- In spite of availability of transport systems, good health care support systems, antenatal care was not availed by 90% of patients which reflects negligence and ignorance of the patients and their family members including the husbands.
- Perinatal mortality was a high 27% with prematurity (21%) being the leading factor for perinatal loss. Dr. P. Nobis reports 44.35% perinatal mortality, which is quite high.
- Intrauterine death was recorded in 9% patients, while 29.7% intrauterine deaths were recorded by Dr. P. Nobis from Silchar.
- Still births were reported in 4% of patients compared to 34% reported from Silchar Assam.
- Maternal mortality was 2% whereas a high mortality of 11.62% was reported in Silchar Assam, most other Indian studies report 8% to 14% deaths in eclampsia. This mortality could be prevented with timely detection and intervention in PIH.
- Maternal mortality has been reduced(2%) but morbidity(with operative intervention 28%) remains high inflicting a socio- economic burden on the family as well as health care system.

Conclusion

- The incidence of eclampsia (0.76%) has not significantly reduced in spite of good health care system, easy availability of transport and technological advances.
- Women do not take advantage of the health care system either due to ignorance or negligence.

- A large no. of young primigravidae, esp from lower socio-economic class suffer due to PIH and eclampsia. This suffering can be minimized by regular antenatal visits and treatment
- Anemia of varying degrees accompanies all the patients of eclampsia which adds to the morbidity.
- 90% women had mild to severe proteinuria, detection of which is possible by simple and non expensive urine examination for proteins.
- Significant fetal loss(27%) and prematurity(21%) was caused by severe PIH and eclampsia.
- In an urban set-up like ours, all facilities and personnel are available. THE PARTICIPATION OF WOMEN IS NEEDED.
- Education of women and the family as a whole and improving the social status of women will go a long way.
- The role of audio visual media (TV) has been underestimated. It can work wonders for education of women and society as a whole for the betterment of the pregnant women.
- This maternal and perinatal mortality can be reduced by simple measures such as regular antenatal check ups and preventive treatment. It does not need great expense, only MOTIVATION AND DETERMINATION.

Acknowledgement

I am thankful to Dr. M. H. Makwana, M.D.(Superintendent, V.S.General Hospital) for his kind permission to publish this hospital data.

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INTRODUCTION:

The transparency of cornea is an essential element of normal vision. Cornea may lose its transparency due to nutritional deficiency- i.e. vitamin A deficiency, accidental injury of the eye, infections of the cornea i.e. virus, trachoma and bacterial infection.

One will be surprised to know that one fourth of blind in our country there are at least more than ten million (one crore) people are blind. Out of them about ten to fifteen percent (more than one million) have blindness due to loss of transparency of cornea. Every year more than twenty thousand people lose their vision due to loss of transparency of cornea. People of all over the universe stay in India. In India every one thousand people, 15 persons are blind. {1.5%} compared to developed countries where prevalence of blindness is nearly less than 0.3%.

Incidentally amongst the blind population, in India 60% are in the age group of less than 12 years. In this young population, the vision can be achieved by timely made eye donation and as kerato-plasty. Eye donation behavior and efficient eye banking service is crucial for this to happen successfully.

Material and method:

As mentioned previously, the number of eye donation is not matched with the requirement due to lack of adequate behavior knowledge, attitude and belief, the survey was carried in Ahmedabad to know the attitude, belief and knowledge on eye donation.

The personal interview and questionnaire were used to assess the knowledge, attitude, belief about eye donation.

. OBSERVATION AND DISCUSSION:

Total 104 subjects were assessed (76 male, 28 female), age range 18 to 64 (Mean age 53) were assessed for the attitude, knowledge and belief about eye donation. 62 subjects gave consent to give eye donation remaining, 42 subjects refused to give eye donation. The reasons for refusal were- dissatisfaction of medical staff 5 (11.9%), failure to achieve Moksh 11 (26.2%), rebirth without eyes 17 (40.4%), already damaged/diseased/operated eyes 7 (16.7%), attachment to his own body 1 (2.4%), without any reason 1 (2.4%), and they are summarised in following table..

Table Showing the reasons for refusal for eye donation:

Sr.no. Type of reason for not ED number percentage 1 Dissatisfaction of medical staff
5 11.9%

2 Failure to achieve Moksh 11 26.2%

3 Rebirth without eyes 17 40.4%

4 Already damaged/diseased/
operated eyes 7 16.7%

5 Attachment of his own body 1 2.4%

6 Without any reason 1 2.4%

total 42 100%

The eye bank is an institute where eye balls/cornea are collected and preserved .The main functions of eye banks are

[1] to collect the eye-balls from the dead bodies and sent them to eye hospitals for corneal transplants,

[2] Educate and motivate the general people about the importance of eye donation after the death of their relatives and friends,

[3] to do the research on corneal transplant and motivate the experts to work in the field of eye donation.

At present about more one million peoples amongst the blinds have corneal blindness who are likely to be benefited by eye donation. Every year this number is going to increase.It has been predicted that more than fifty thousand eye-balls are to be collected every year for the national demand.But unfortunately about three thousand pairs of eye-balls are achieved by eye donations.In India eye donations activity is negligible in all the states except Gujarat and Maharashtra. In our country ,every year more than one crore of people are dying and we receive only three thousand pairs of eye-ball per year .This is really a fact to think and rethink. And for that, multidimensional actions are required if our campaign that "VISION FOR ALL-BY 2020" is to make successful.

CONCENT OF EYE DONER.

For successful eye donation the most important and fundamental step is to increase the number of eye-banks. Potential eye donor can be increased by taking the consent to give eye donation after their death amongst the living people .This consent is to be taken during the life in the written form that he/she is willing to give eye-donation after his/her death otherwise one has to take the consent of their legal heir . It is very difficult to get

the consent for eye donation at the time of death when the relatives and other peoples are already in sad mood and in hurry to carry out routine procedure after of death and dealing other social problems.

In this situation medical social workers, hospital staff ,nursing staff resident doctors ,family doctors can help- a lot to motivate to give the eye donation in the circumstances of death. If the death occurs in the house, it is the family doctor who attend the death .In this situation, the family doctor can motivate the relatives for eye-donation . Every family doctors and every hospital must have pamphlet mentioning the fact about the importance of eye donation and name address and telephone numbers of eye banks. Hear it is further recommended that the telephone numbers of eye bank should be very simple digit phone number i.e.001 ,002 etc,So that people can easily remember.If the eye donor is economically very poor, the close relatives of the donor may be encouraged by some financial or similar help but of this is an idea. Even consent for eye donation is /can be Included in driving license. In certain countries death due to vehicular accident is very high. In such situation eye donation can be achieved from the consent letter of driving license. In America only thirty-five thousand to forty-five thousand eyeballs are received every year.

The law can also be helpful if it permit to take eye-balls in certain circumstances like postmortem circumstances, death in the jail ect.

In our country the religious saints have very good impact on the people. Their help can be taken to motivate the people for eye donation. In Shrilanka, the Bodhidharma favoures the donation of organs of the body including eye donation.Probably for this reason ,Shilanka is doing the best in the eye donation activity in Asia And to that extent that the eye-balls are sent to other countries of Asia and Africa. In this context ,it worth to mention the name of Dr. Hudson Silva who dedicated his whole life in area of eye donation .

Methodology.

From the dead body the eye-balls are removed by Ophthalmologist, by trained doctor or technician. Before removing the eye balls and during the procedure it is essential that complete antisepsis is maintained Antibiotics eye drops are instilled into the eye balls . The eye-balls are to be removed with sterilized instruments .Sterilized hand gloves must be on the hands. Usually the procedure is completed within 10 to15 minutes. After removing the eye balls the space is filled with cotton and swabs which are later on stitched with eye leads by black cotton threads so it looks like the person is in deep sleep. In certain circumstances ,after removing the eye balls the artificial eyes are placed. So whatever the method is used the face is not distorted and made ugly by giving the eye donation. The most common false bilief amonst the general public is that the face is made ugly by eye donation.

The quality of cornea of donated eyeball is depend upon various factors. The most important factor is the duration between /the time of the death and the time of eye

donation. This time factor is very important. It is recommended that eyeballs should be removed as early as possible. Eyeballs should be removed within four hours. Usually six to eight hours after death, the cornea are useless for corneal transplant.

The quality of cornea is also affected by the environmental temperature. The cold temperature is very ideal. After removing the cornea, they are preserved at four degree centigrade immediately. The age of the donor is not an important factor. It is common false belief is that persons wearing glasses or persons who are operated for cataract can donate eyeballs. The spectacles and cataract surgery do not effect the quality of cornea for eye donation purpose.

Off course in following conditions/diseases the eye donation is strictly contra indicated.

1. Rabies [hydrophobia]

2 AIDS

3 Viral hepatitis

4 Certain cancer i.e .leukaemia

5 Snake-bite

6 tetanus

7 Syphilis

If the donor is suffering from conditions i.e. diabetes, heart disease, hypercholesterolemia, tobacco and alcohol addiction, the conditions of eye balls should be examined before eye donation.

Preservation of cornea.

This is the most important aspect for the successful of corneal transplantation. Immediately after removing the eyeballs, they should be preserved in the thermos containing specialized antiseptic solution at four degree temperature and transported to the eye bank or eye institute where it is further preserved in refrigerator. From eye bank to other distant remote area the eye balls can be transported in specialized thermo cool box.

Even if above procedure is strictly maintained, the eyeballs should be utilized within 48 to 60 hours. Recently specialized liquid/solution is available commercially, which can preserve the cornea for 7 to 15 days. Within the specialised period the cornea must be utilized for corneal transplantation. One pair of eyeballs is to be utilized for two different blind persons. Here it is essential that strict antisepsis is maintained for uncomplicated successful surgery of corneal transplant /keratoplasty.

Surgery of corneal transplant /keratoplasty are of two types.

[a] complete

[b] partial.

Usually one eye is to be operated for corneal transplant surgery. Patient has to stay in hospital for two to three weeks. The success of the surgery depend upon the quality of cornea which is selected for the surgery. It is found that more than fifty percent of cornea available from eye bank are not suitable for corneal transplant. Even the good cornea is selected for the surgery the success is still variable depending upon the overall status of eye of the recipient blind person, the experience of the surgeon, and post operative care of the patient.

Obstacles: .It is not enough that adequate number of the eye balls are available by eye donation. The provision and facility of this surgery should be made available in the hospitals .It also appears that the ophthalmologists do not take much interest in this field .This is probably due to the facts that as the good quality of cornea are not available and success rate is not satisfactory the surgeons do not show much enthusiasm in this field. Availability of beds in General hospital is also a big problem. Here it should be noted that this surgery requires hospital stay about two to three weeks. As the surgery dose not carries hundred percent success rate, the surgeons do not like to take risk of the carrier; and prefer to take carrier in cataract surgery where the there is almost hundred percent success rate. It is further stated that patients of corneal blindness are coming from poor socio economical class. And the surgery is not financially rewarding one. Those patients who are financially affording they get surgery done in foreign countries where the success rate is very high.In our country certain costlier instruments are not available in general hospitals. Even there is no adequate surgeons who are specialized in this type of surgery. In India this surgery is just beginning and carries very good future prospective.

In this context it is worth note that the corneal transplant has many benefits over other organ transplant i.e. corneal transplant dose not require tissue matching and tissue typing. Here the cornea can be made available from dead people so one dose not need to deal a living persons i.e. kidney transplant. The collection and preservation of eyeball are available from cadavers far more easier to collect and preserve than other organ transplant i.e. heart, lever and lungs. The corneal transplant is relatively cheep and easy procedure. If done carefully it is rewarding and give a vision to a blind person.The thing required is MOTIVATION and education to the medical and general population. If it is done the large number of the people with blindness can get the benefit of vision the great gift of GOD.

Conclusion & implications : Considering the fact that the eye donation behavior is not matched with number of eye required to manage blindness, people's misconception should be heard, clarified . The Small study documented the facts multiple beliefs i.e. individual bias, ethnic ,social and traditional ideas are prevailed among the population for

not giving the eye donation. Even certain belief are more complicated for that we still have to find out the reply i.e. moksh and rebirth.

This suggest that more effective educational intervention is required to make our eye donation and eye banking services effectively to population at large. Educational intervention is to be implemented at all the levels of medical and health education to improve the eye donation behaviors.

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STUDY OF CASES OF MALARIA

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INTRODUCTION :

. Malaria has been an age old disease and mankind has been burdened with the aftermaths and devastating effects of this disease.

. Although sincere and concerted efforts have been put in to eradicate this disease it continues to prevail. Some areas where it is endemic bear the brunt of this disease.

. Newer anti malarias have been introduced in the recent years as some of the conventional anti malarias have proven ineffective due to development of resistance.

. This study tries to provide an insight on the efficacy of conventional antimalarials as a primary line of management for complicated cases of malaria.

AIMS OF STUDY :

- 1) To study the incidence of cases of malaria
- 2) To study the incidence of severe malaria with multi-system involvement
- 3) To study the effect of conventional anti-malarial drug therapy

PERIOD OF STUDY:

1st July 2004 to 31st October 2004. Number of cases included were 42 and the study was conducted in Paediatrics Dept.

MATERIALS AND METHODS :

. During the tenure of study from 1st July 2004 to 31st October 2004, all the patients were categorically analyzed.

. A total of 42 patients were enrolled in the study which included points of both clinically and slide positive malaria. They were examined in details and investigated for the same in form of QBC and other laboratory parameters.

. All collected data was filled up in a preformed performa, the data was analyzed and results obtained.

OBSERVATION AND RESULTS :

. Incidence : Out of total 360 admissions during the study period, 42 pts (11.7%) were of clinical and slide positive malaria.

. Out of 42 cases, 13 (31%) were of clinically malaria, 29 (69%) were if slide positive malaria out of which 10 (24%) were of P.Vivax and 19 (45%) were of P.Falciparum malaria.

Out of 85 admissions in July, 4 (4.7%)

Out of 99 admissions in August, 5 (5.1%)

Out of 123 admissions in September , 11 (8.9%)

And Out of 78 admissions in October, 22 (28.2%) were of clinical / slide positive malaria.

Out of 42 cases, 23 (55%) were males and 19 (45%) were females.

The youngest case was of a 6 month old female with P. Falciparum malaria.

Age-wise distribution shows :

1 month - 1 year - 3 /42 (7.1%)

1 - 5 years - 23 / 42 (54.8%)

> 5 years - 16 /42 (38%)

Out of 42 cases, haematological complications were seen in 31 (74%) of cases which included anaemia in all 31 (74%) of cases. Severe anaemia Hb < 5 gm % was seen in 15/42 (35%) out of which 10 cases were of P.Falciparum, 2 cases of P.Vivax and 1 case of clinically malaria.

Increase in reticulocyte count was seen in 10/42 (24%) of cases amongst which 8 cases of P.Falciparum

Thrombocytopenia was seen in 12/42 (28.5%) cases, out of which 7 cases were P.Falciparum, 4 cases were of P.Vivax and 1 of clinical malaria.

12/42 (29%) cases had CVS complications which included CCF in 10 cases; 6 cases of CCF were of P.Falciparum; 3 cases of P.Vivax and 1 of clinical malaria.

14/42 cases had CNS complications (cerebral malaria) out of which 5 cases of P.Falciparum, 3 cases of P.Vivax and 6 cases of clinical malaria.

Out of 42 cases, 1 pt presented AFE and 1 with Augid malaria.

Biochemical alteration in RFT (increased BUN & SCr) were seen in 7/42 cases, 6 of them being P.Falciparum (17%)

Hypoglycemia was seen in 6 cases, 5 of them being P.Falciparum.

Alteration in LFT were seen in 5/42 (12%), 4 being P.Falciparum.

QBC was done in all 42 cases, 13 were negative, 29 were positive out of which 19 were P.Falciparum and 10 were P.Vivax.

QBC was repeated in all slide positive cases after 48 hours of therapy, 15/19 cases of P.Falciparum showed improvement, 2 cases showed same grade while 2 patients expired.

TREATMENT PROTOCOL :

13/42 cases of clinically malaria responded to chloroquine therapy as per WHO protocol.

Out of 10 cases of P.Vivax, 8 were given chloroquine initially but 3/8 pts required sulpha-pyrimethamine combination due to each of chloroquine response while 2 pts required quinine initially.

All 19 cases of P.Falciparum were treated with quinine (oral/ IV) initially, out of which 15 responded 2 patients required artesunate due to lack of quinine response while 2 patients expired.

Other supportive treatment like PCU in 6 cases, PPC in 3 cases, intropes in 4 cases and anticonvulsants in 3 cases were given as per standard regimes.

Outcome: Out of 42 patients, 40 patients were discharged, while 2 patients of P. Falciparum expired within 3 hours of admission.

CONCLUSION :

Malaria accounted for 42 (11.7%) out of total 360 admissions from July to October 2004.

There was a progressive month wise increase in incidence of cases from July to October.

Out of 42 cases,13 were of clinically malaria, 19 of P. Falciparum and 10 cases of P. Vivax. There was no sex related predominance.

Children in the 1-5 yrs age group, 23/42 (54.8%) were maximally affected.

P.Falciparum malaria accounted for majority of complicated cases of malaria with 2 deaths being of P.Falciparum malaria patients too.

Conventional therapy with chloroquine and quinine are still helpful in treating even complicated cases of malaria in our study.

CASE REPORT

MENINGITIS DUE TO ACINETOBACTER.

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Abstract:

A female child aged 5 year was brought to the hospital with history of persistent fever, and unconscious for medical advice and was investigated at VSGH. Acinetobacter was isolated from her CSF

Members of the genus Acinetobacter are strictly aerobic, short, stout often capsulated,

non-motile , gram negative bacilli or cocobacilli that grow well on simple media. They occur frequently as commensal flora and are therefore regular contaminants of the hospital environments. But they are increasingly recognized as opportunist pathogen associated with infections like broncho-pneumonia , meningitis and septicemia in immuno- compromised patients(1)

Case Report :

A 5 year old female child with history of persistent fever,unconscious &multiple infarcts present in CT scan of brain.

The WBC counts was 1850 cells/ cumm, 95 % polymorphs and 5 % lymphocytes.

The bio-chemical analysis of CSF revealed: Protein 460 mg/dl, Glucose 30 mg/dl.

Microbiological Investigation :

The CSF sample was subjected to gram stain which revealed plenty of pus cells and short gram negative bacilli. CSF culture was done by standard techniques.

The identification was established by creamish white colored smooth circular colonies on nutrient agar, and also grow on Mac Conkey Agar and on blood agar.

Biochemical profile was as follow: Catalase positive, Oxidase negative, did not reduce nitrates, did not ferments sugar and the organism identified was acinetobacter. Sensitivity was done by Kirby bauer disc diffusion method as per NCCLS standards.(2) It was sensitive to amplicilin/ sulbactum and tetracyclin.It showed resistance to fluro-quinolones and cephalosporines like cefotaxime and ceftizoxime and also to aminoglycosides like amikacin and gentamicin. The patient was treated with Inj. Ampicillin/ sulbactum and had responded to the treatment.

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CASE REPORT

MULTIPLE PANCREATIC PSEUDOCYSTS

IN THE ABDOMEN

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Abstract :

A 45 years male was admitted with complains of pain in abdomen and lump in abdomen with past history of Pancreatitis. On examination there was a lump in the epigastrium. Ultrasonography and C T Scan showed Multiple Pancreatic Pseudocysts in the abdomen. On exploration there were Multiple Pancreatic Pseudocysts in the abdomen, which were dealt with. Postoperative period was un-eventful.

A 45 years old alcoholic male patient was presented with the complains of pain in the abdomen and lump in the upper abdomen. He also complained of loss of appetite and loss of weight. He had past history of hospital admission twice for Acute Pancreatitis. On examination the patient was conscious and oriented. The vitals of the patient were stable. There was an 8cm\6cm size lump in the epigastrium.

X ray study of Chest and Abdomen was normal. USG study of the abdomen suggested Pseudocyst in relation to posterior wall of Stomach in lesser sac, another Pseudocyst in close relation to the Spleen on medial surface and one more Pseudocyst in abdominal cavity surrounded by omentum and coils of intestine. CT Scan confirmed above findings.

On exploration there were 4 Pseudocysts.

1. Below umbilicus, adherent to peritoneum and small bowel mesentry.
2. Cyst adherent to small bowel mesentry and having communication with mesocolon.
3. Lesser sac Pseudocyst adherent to the posterior wall of the Stomach.
4. Cyst in the upper pole of the Spleen.

The lesser sac Pseudocyst was treated by Cysto-gastrostomy. Intra splenic pseudocyst was treated by partial splenectomy. Other cysts were excised. The histopathological report confirmed the diagnosis of Pancreatic Pseudocyst.

The post-operative period was uneventful. The patient was discharged on 10th postoperative day. 6 months follow up was uneventful.

Discussion :

Development of Pseudocyst in the Lesser sac is a very common complication of Acute Pancreatitis. Reaching to diagnosis in these patients is simple and treated by Cysto-gastrostomy. Pancreatic Pseudocysts are been reported in Liver, Spleen, Stomach wall and Mediastinum. Development of multiple Pseudocysts in the abdomen is very common. These Pseudocysts may develop all the possible complications of Lesser sac Pseudocyst namely inflammation, hemorrhage, necrosis etc. They create dilemma in reaching diagnosis. Pancreatic Pseudocysts in Spleen is treated by Splenectomy.

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Case report

Interesting Post-mortem Finding

Dr. Kalpesh Kotariya* , Dr. Anil Rajput , Dr. Pratik Patel***, Dr. Jyoti Deokule**** *Jr. Lecturer in Forensic Medicine,** Jr. Lecturer in Microbiology,***Professor in Forensic Medicine, ****Professor in Microbiology. SMT NHL Med.College Ahmedabad 380006.**

Meningitis continues to be formidable illness with high morbidity and mortality in India. Gram Positive Cocci have been incriminated as bacterial aetiological agents of Pyogenic Meningitis in various studies.

A 9 months old, male child was admitted with cough, cold and fever from 4 days with history of convulsion from 1 day. Patient died within 1 day after admission. There were 8 markings of 0.5 cm diameter burn on Abdomen near umbilicus. The body of he child was sent to forensic department for post-mortem to know the cause of death and to rule out the possibility of homicidal death.

On examination, Lungs were full of pus, Brain was congested and oedematous, CSF and Blood culture was collected and sent for microbiological study. Routine analysis of CSF was done.

Burn scars present on the Abdomen were non-infected and superficial burns and not sufficient to cause death or likely to cause death. On Histopathological finding kidney showed cloudy changes, Lungs were full of inflammatory cells and shows congestion and oedematous, Brain showed changes of meningitis with oedema and congestion.

CSF Examination showed plenty of pus cells and Gram Positive Cocci in short chain. Blood culture was sterile.

On culture there is growth of tiny, white colonies which are less than 1 mm in diameter and irregular in outline with b-hemolysis on Blood Agar.

Biochemical Reaction - Catalase Negative

Optochin Resistance

Bacitracin Sensitive

Bile-solubility Negative

Organism diagnosed as *Streptococcus pyogenes*.

Though *Streptococcus pyogenes* is not the common cause of meningitis. In this case the death was due to meningitis caused by *Streptococcus pyogenes*.

World Health Day 2005

Make Every Mother and Child Count

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World Health Day is celebrated every year on 7 April. The theme of World Health Day 2005 is healthy mothers and children.

In developing countries, pregnancy and childbirth are one of the leading causes of death for women of reproductive age, and one child in twelve does not reach his or her fifth birthday. Yet, the fate of these women and children is too often overlooked or ignored. The slogan for World Health Day 2005 "Make Every Mother and Child Count" reflects the reality that today; governments and the international community need to make the health of women and children a higher priority. When mothers survive and thrive, their

children survive and thrive. When both mothers and children survive and thrive, the societies in which they live prosper.

The aim of World Health Day 2005 is to create momentum that compels governments, the international community, civil society and individuals to take action to improve the health and well-being of mothers and children - and especially to help save the lives of millions of mothers and children who are dying each year during childbirth and early childhood.

The main objectives of World Health Day 2005 are to:

Raise awareness of the extent of illness, suffering and death among mothers and children, and its impact on health as well as social and economic development.

Increase understanding that solutions exist.

Affordable and effective means are known that can prevent death and suffering. The challenge is to deliver a key set of preventive and curative interventions to the mothers and children who need them - to translate knowledge into action.

Generate a movement that stimulates collective responsibility and action. Families, community-based groups, professional societies, national governments, and the international community all need to support the delivery of programmes and services to mothers and children, as well as fight for better access to basic health services. Every individual within society has a role to play.

Childbirth is a central event in the lives of families and in the construction of communities; it should remain so, but it must be made safe as well. For optimum safety, every woman, without exception, needs professional skilled care when giving birth, in an appropriate environment that is close to where she lives and respects her birthing culture.

The need for care does not stop as soon as the birth is over.

Messages for World Health Day 2005

Message 1:

Too many mothers and children are suffering and dying each year.

Every minute, a woman dies from complications in pregnancy and childbirth. That means 1 400 women die every day - more than half a million women die every year (WHO, 2004a). Many millions more suffer disabilities. Every minute, 20 children under the age of five years die. That means nearly 30 000 children die every day 10.6 million children die each year (Black, Morris & Bryce, 2003). Newborn babies less than one month old are at greatest risk. Among all child deaths each year, nearly 4 million are among newborns (Lawn et al., 2004). Globally, for every two people who die in traffic accidents,

one mother and 20 children die from preventable and treatable causes (WHO, 2004b). About 99% of maternal deaths and under-five child deaths occur in low and middle income countries, particularly in sub-Saharan Africa and South Asia.

70% of all maternal deaths are caused by just five factors: haemorrhage (24%), infection (15%), unsafe abortion (13%), high blood pressure (12%), and obstructed labour (8%). Nevertheless, poverty, social exclusion, low levels of education, and violence against women are powerful underlying causes of maternal death and disability. Women who become pregnant very young, who give birth many times, who suffer from infectious diseases such as malaria, TB and increasingly HIV/AIDS, and who are malnourished or anaemic are more likely to die. HIV/AIDS presents an ever-increasing threat to both mothers and their children. Women currently account for nearly half of all adults living with HIV/AIDS (UNAIDS, 2004).

A handful of preventable and treatable conditions are responsible for more than 70% of all child deaths. They are neonatal causes (37%), pneumonia (19%), post-neonatal diarrhoea (17%), malaria (8%), measles (4%), and HIV/AIDS (3%). Malnutrition contributes to more than half of all childhood deaths by increasing a child's risk of dying. Lack of access to food is not the only cause of malnutrition; poor feeding practices and infection, or a combination of the two, are both major factors. The greatest threats to the survival of newborns (0-28 days) are a combination of perinatal conditions (e.g. low birth weight, birth trauma, and birth asphyxia) and severe infection (e.g. neonatal sepsis, pneumonia, meningitis, and tetanus).

Message 2:

Healthy mothers and children are the real wealth of societies.

The survival and well-being of mothers and children are not only important in their own right, but are also central to solving much broader economic, social and developmental challenges. Improving the survival and well-being of mothers and children will not only increase the health of societies, it will also decrease inequity and poverty.

. When a mother is sick or dies, her productive contribution to the home, workforce, economy, and society is lost, and the survival and education of her children are jeopardized. Every year, an estimated one million young children die as a result of the death of their mother (WHO, 2003a).

. It is estimated that for every dollar invested in child health, seven dollars are returned through reduced spending on social welfare and increased productivity of young people and adults (World Bank, 1996).

Message 3 :

Millions of lives could be saved using knowledge we have today. The challenge is to transform this knowledge into action.

Effective knowledge and tools exist to reduce suffering and death. However, to make a real difference they must reach all mothers and children who need them.

. Not enough mothers and children are receiving existing and affordable life-saving interventions. For example, globally, just 61% of births are assisted by a skilled attendant, while in some low income countries the average is as low as 34% (WHO, 2004c). Furthermore, only 4 out of 10 children with pneumonia, worldwide, are treated with antibiotics (Gareth et al., 2003).

. To reduce maternal deaths dramatically, all women need access to high-quality delivery care with at least three key elements: skilled care at birth, emergency obstetric care in case of complications, and a functioning referral system which ensures access to emergency care if needed. Another key solution is helping women to avoid unwanted pregnancies and births.

. More than 6 million children could be saved each year if they were reached by a small set of preventive and curative interventions (e.g. vaccines and simple treatments for common serious illnesses) and appropriate home care (Gareth et al., 2003).

. Schooling for girls results in healthier, better-educated children, fewer maternal and child deaths, greater economic opportunities, and enhanced well-being of families. Nevertheless, two out of every three children not in school are girls; and two out of every three illiterate adults are women (UNESCO 2003).

Message 4 :

In order to make a difference, we must all join forces and act. Together we can do it. Each one of us has a role to play.

Indian Scenario :

According to WHO estimates about 510,000 maternal deaths (0.9% of total deaths) occurred globally, of these deaths about 171,000 were in South East Asia. Life time chances of maternal death in the world as whole is about 1 in 75. It varies from country to country. In India it is 1 in 55. According to Registrar General of India estimates for year 2000, MMR for India was 407/ 100,000 live births. There are wide variation between the states with Uttar Pradesh, Rajasthan, Madhya Pradesh, Bihar and Assam having MMR higher than National average. Gujarat has rough estimation of MMR of 4/1000 live births. Unlike IMR, it is difficult to establish MMR as it needs a huge sample size. Poor access to health care system has always led to underreporting of maternal deaths and the existing system out reach program to identify and monitor each and every pregnancy.

World Health report 2005