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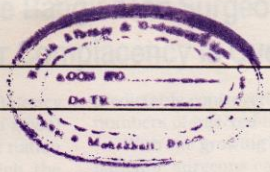

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Editorial

AIDS and the Bangladesh Surgeon the time for Complacency is Over

AIDS or Acquired Immunodeficiency Syndrome has emerged as a disease of global epidemic proportions. As a third world nation we cannot ignore this problem which the industrialized nations with all their health care resources are struggling to contain.

Caused by the Human Immunodeficiency Virus (HIV), AIDS manifests as a spectrum of disease with severe opportunistic infections and neoplasms at one end and healthy, asymptomatic seropositive individuals at the other end. In between are individuals who fall into the category of AID related complex (ARC). Studies of infected cohorts reveal little development of the disease within the first 3 years following which 7-10% per year develop full blown AIDS while others develop clinically symptomatic disease of less severity[1]. Whether 100% of HIV infected individuals eventually develop AIDS is not known. HIV transmission occurs predominantly by sexual contact with infected individuals, parenteral exposure to infected blood, and perinatal transmission. Transmission by respiratory droplets, vectors like mosquitoes or by casual non-sexual contact has not been demonstrated. As of July 1992, WHO estimates that over 13 million persons are infected with HIV worldwide[2]. In UK alone, it is thought that there are over 50,000 HIV antibody positive individuals who will eventually develop AIDS.[3]

In Bangladesh, anecdotal information about official estimates currently available say that there are 9 HIV positive individuals out of which one has died (The Daily Star, September 07, 1992). Unofficial estimates, predictably controversial suggest much higher numbers of infected indiviuals.

With the growing numbers of HIV positive patients, surgeons can expect to see patients with AIDS and injuries or surgical complications unrelated to viral infection, or AIDS related specific surgical conditions. Notably, infected individuals may present with surgical problems peculiar to AIDS like acute abdominal pain, intra-abdominal lymphomas, splenomegaly, lymphadenopathy, Kaposi's sarcoma of the skin and oral mucosa, osteomyelitis of the jaws following simple tooth extraction, necrotizing herpes simplex, cerebral lymphomas and infections resembling space occupying lesions, severe proctitis and anorectal abscesses running an aggressive course [4,5].

Relatively little literature is available regarding the attitude of the surgical community towards this grave problem although surgeons are the Health Care Workers who come into contact with blood and other body fluids at a much higher level of exposure than any other HCW and under circumstances which are least predictable and therefore least controllable. Self-inflicted injury is a recognized occupational hazard for the surgeon and is estimated to occur once for every 20 operations.[6] Additionally surgeons cannot usually refuse operation inspite of small open lesions on their hands, arms or face.

Injury to the surgeon can occur in a number of ways. Glove puncture occurs in upto 30-50% of operations and self-inflicted injury from knives and needles in 15-20%.[7-9]

A recent survey of 1039 surgeons in USA reported that the majority experienced at least one percutaneous exposure to blood per year,[10] while other studies have reported the risk of percutaneous injury of the surgical team to range between 1.3% and 15.4%.[6,11-13] Fingers were contaminated with blood most frequently during operative procedures and this was most often due to undetected holes in gloves, glove failure rate related to longer duration of the operation, lack of care, inattention to good procedural techniques and specific surgical traits like increased finger dissection.[13] It is possible to contract the disease from percutaneous injury with sharp instruments contaminated with blood or other body fluids from an HIV infected patient. Concern is duly justified because AIDS is uniformly fatal and most HIV infected individuals eventually develop the full blown syndrome. HIV infection for the surgeon would almost certainly spell the end of his or her profession and possibly illustrious career, not withstanding the adverse socio-economic implications resulting from loss of friends, social standing, insurance and jobs.

Thus far the incidence of any surgeon developing AIDS has been extremely low. Only 28 HCWs have undergone proven seroconversion following exposure to patients with HIV[14] and none of those were surgeons. The low rate of seroconversion indicates that the risk of infection from HIV patients appears small[15,16] with reports suggesting the likelihood to be 0.25-0.5%[10]. Nevertheless, there are reports of surgeons suffering from and dying of AIDS[17-19] and a recent US survey showed that 62% surgeons believed their lifetime risk of contracting HIV infection to be 1% or less while 5% thought it to be 10% or more.[10] This same study showed that although 74% of surgeons were in favour of routine HIV testing of patients, just 61% were familiar with the Centre for Disease Control guidelines for universal precautions and only 8% Knew the risk of acquiring HIV infection if they sustained a percutaneous injury; furthermore 72% believed that surgeons with HIV should have their operating privileges restricted.[10] Notably, this study reported that although 73% of surgeons would operate on a HIV infected patient requiring surgery, 18% would refer the patient to another centre and 8% would not operate at all; with evident AIDS, 66% of surgeons would consider operating [10].

In Bangladesh, the health care delivery and monitoring system with its inherent problems of logistics, inadequate infrastructure and financial constraints is ill-equipped to deal with the growing AIDS epidemic. There are a woefully inadequate number of centres for screening, mainly being located in Dhaka at the Institute of Post Graduate Medicine and Research(IPGM&R), Institute of Public Health (IPH), Armed Forces Institute of Pathology (AFIP), and some private clinics and laboratories whose costs of screening are prohibitive for the general population (i.e.a routine HIV assay costs about Taka five Hundred [Tk. 500/=] or US#11). With the prevailing social stigma surrounding AIDS, most surgical procedures will probably continue to be carried on for a long time in a state of total ignorance as to the patients HIV status. Under these circumstances it may be judicious to adopt a universal approach regarding each patient as potentially HIV positive and take due precautions adhering to strict surgical principles. The concept is not new when dealing with unknown or little known infectious diseases and has been adopted by many centres worldwide. Even the Centre for Disease Control, USA, advocates universal precautions to prevent exposure to patients blood and body fluids [20,21].

In the backdrop of this situation certain suggestions are put forward for consideration

to provide maximum protection to the surgeon against HIV infection, reduce risks of exposure to an absolute minimum, to safeguard his professional status and ensure the right to live in comfort, honour and dignity in the untoward event of his becoming infected.

* Screening of patients wherever possible especially in high risk groups (i.e. drug addicts, prostitutes and haemophiliacs), following suspected high risk behaviour and in persons known to frequently travel to and from areas of known high prevalence of HIV infected and AIDS cases.

* To have blood withdrawn and possibly analyzed at the time of and subsequent to a specific incident in which HIV transmission was a possibility; or to have blood withdrawn for storage against the future need to establish the HIV status.

* To insist upon testing for HIV of a patient involved in an injury to a surgeon at the time or subsequently.

* To have an HIV assay on patients at their own request.

* Proper conducts and standard in the operating room

  Restricting the number of personnel participating on potentially infected HIV or HIV positive patient to an absolute minimum and barring nonessential, inexperienced, pregnant and personnel with open wounds.

  To use, whenever possible, disposable masks, gowns, and plastic aprons under operating gowns especially if there is a chance of contamination by blood and other body fluids. If disposable items are not available, then immediate change of contaminated masks and gowns and decontamination of underclothing and shoes with 1:10 dilution of chlorine bleach followed by washing is recommended [19].

  - To use eye glasses to protect the eyes from contamination.
  - Double gloving, because it is a simple but effective barrier against contamination with the patients blood or body fluids. A recent study has shown that the glove failure rate (defined as blood contamination of the fingers) was 51% when one glove was worn and 7% when two gloves were worn with no significant loss of tactile sense [22].
  - Avoid puncturing during injection of local anaesthetics, intravenous line introduction, or suturing tissues.
  - To minimise the use of scalpels and increase the use of scissors or cautery for incision and tissue dissection.
  - Introduction and use of stapling devices.
  - Slowing the pace of operation.
  - To ensure that all personnel wash their hands and arms thoroughly at the end of operation; or have a warm shower/bath immediately after operation with a antimicrobial skin cleanser if there was any possibility of skin contamination with the patients blood or body fluids.

* Increase the use of laparoscopic surgery in HIV patients or potentially infected patients. This is becoming an attractive option because of the benefit to the patient-diminished invasiveness, limited incisions, reduced healing times and wound complications, optimal pulmonary function and rapid recovery

to normal. To the surgical team, the procedure is beneficial in terms of minimized exposure to body fluids and the hazards of tissue dissection and suturing.[23]

* To reserve the right not to operate on HIV infected or high risk patients under circumstances unfavourable to the surgical team provided alternative surgical arrangements are available.

* To demand rom relevant health administration officials better facilities designed to ensure maximum protection to the surgical team and greater legal assistance and optimum insurance coverage for employees.

The Bangladeshi surgeon, therefore cannot afford to be complacent and regard the AIDS epidemic as a scourge of the Western World but must start taking adequate precautions to prevent himself from entering the wrong statistics. It may be worthwhile to explore into the possibilities of demanding greater legislative rights designed to protect surgeons and other categories of health workers as well as increased disability insurance and severance pay from employees.

In the words of Prof HAF Dudley, "Precaution, irrespective of their real value, heighten awareness"[9], and awareness is the need of the hour.

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(J. Bangladesh Coll Phys Surg 1993; 11: 1-5)

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Blood Pressure response to Physostigmine : A Species Difference Among Rats, Rabbits and Cats

AHMMED ALLY, Ph.D[a] YUKIO HARA, M.S. Ph.D.[b]

Summary :

A comparison in the blood pressure responses to intravenous injection of a cholinesterase inhibitor, physostigmine, was done among rats, rabbits and cats, using a same anesthetic preparation with a-chloralose 40 mg/kg and urethane 800 mg/kg intraperitoneally.

Physostigmine 50-150 μg/kg administered intravenously produced a dose dependent increase in blood pressure in rats and rabbits; whereas in cats, intravenous administration of physostigmine 25-150 μ g/kg produced a dose dependent fall in blood pressure. These results demonstrate that physostigmine, which crosses the blood brain barrier, produces pressor responses in rats and rabbits, and a depressor response in cats, indicating a very important species difference among them. The blood pressure response to physostigmine was presumed to be mediated through a central cholinergic mechanism.

(J. Bangladesh Coll Phys Surg 1993; 11: 6-10)

Introduction :

Central cardiovascular effects of cholinergic agonists appear contradictory with both pressor and/or depressor responses, which can largely be attributed to dose, locus and mode of administration and to the state of the animal, i.e., conscious or anesthetized[1]. Stimulation of the central muscarinic receptors with cholinomimetics induces an increase in blood pressure in several species, including humans[2]. Furthermore, administration of cholinergic agonists or cholinesterase inhibitors, either intravenously, intracerebroventricularly, int-racisternally, or into the posterior hypoth-alamic nucleus and the rostral ventrolateral medulla in the rats, produces an increase in blood pressure through stimulation of muscarinic receptors[3,4,5,6,7,8,9,10]. It has been reported that microinjection of different cholinergic agonists into the nucleus tractus solitarii[11] and into the ventrolateral medullary area[12], evokes a depressor response in rats, suggesting the existence of depressor areas in the rat brain.

In anesthetized cats, intravenous injec-tion, intracerebroventricularadministration, or topical ventral medullary appli-cation of cholinomimetics produces a centr-ally depressor response[13,14]. However, there is no study concerned with a comparison of blood pressure responses to intravenous injection of cholinomimetics in rats, rabbits and cats, using the same anesthetic preparation.

The purpose of this study was to determine the blood pressure responses to intravenous administration of a cholinesterase inhibitor, physostigmine, in anesthetized rats, rabbits and cats.

Materials and Methods :

Experiments were performed in male Wistar rats weighing 260-300 g, adult male rabbits weighing 3.9-3.8 kg an adult cats of either sex weighing 2.0-4.2 kg. All animals were anesthetized with a-chloralose 40 mg/kg and urethane 800 mg/kg intraperitoneally. A cannula was placed in the trachea to

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maintain spontaneous respiration. The femoral artery and vein were cannulated for measurement of systemic blood pressure and injection of drugs, respectively. The arterial cannula was connected through a pressure transducer (Model MM-2A, Kyowa, Japan) coupled to a penrecorder (Type 3066, Yokogawa, Japan). Subsequently, the arterial cannula was filled with heparinized saline solution.

Drug used in this study was physostigmine sulfate (Wako Pure Chemical, Japan). For intravenous injection, drug was dissolved in physiological saline and given on a weight basis in a volume of 0.1 ml/100 g of body weight.

Results are expressed as mean±S.E.M. Statistical analysis was done using Two-way analysis of variance with subsequent comparisons done by the Scheffee test. A value of $P<0.05$ or $P<0.01$ was regarded as statistically significant.

Results :

Mean blood pressure in control rats, rabbits and cats averaged 116 ± 3.3 mmHg (n=5), 91 ± 2.4 (n=4) and 120 ± 5.2 (n=9), respectively. A marked difference in the blood pressure response to physostigmine i.v. was seen in rats, rabbits and cats under the same anesthetic condition. The dose of 100 mg/kg i.v. of physostigmine evoked an increase in the mean blood pressure of 30 ± 2.6 mmHg in rats (Fig. 1). The pressor response to physostigmine appeared within a minute and returned to the pre-injection level in about 40 min. In rabbits, physostigmine 100 mg/kg i. v. produced an increase in blood pressure of 19 ± 4.2 mmHg (Fig. 1). Time course of the blood pressure response in this preparation was similar to that in rats.

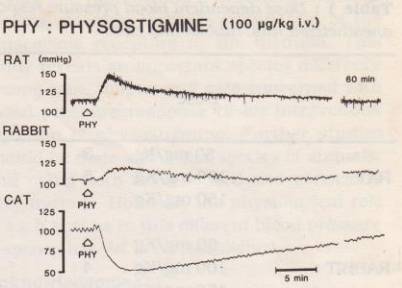

Fig. 1 *A representative record of the effects of physostigmine 100 µg/kg i.v. on blood pressure in anesthetized rat, rabbit and cat. All animals are anesthetized with a-chloralose 40 mg/kg and urethane 800 mg/kg intraperitoneally. Rat and rabbit exhibited pressor responses, while in cat there was a depressor response.*

In contrast to rats and rabbits, an injection of physostigmine 100 mg/kg i.v. produced a decrease in blood pressure of 54 ± 2.4 mmHg in cats (n = 9); (Fig. 1). The onset of the decrease in blod pressure occurred at about 1 min after the injection, peaked in about 5 min and returned to the pre-injection level after approximately 60-80 min. Onset of the depressor response at the dose of 150 mg/kg of physostigmine was immediate, while at the smallest dose of 25 mg/kg, onset was after about 2 min. Similarly, peak fall in blood pressure was observed at 3 to 7 min, depending on the dose.

In these three species, the dose response relationship of blood pressure measured at the time of peak change were compared and shown in Table 1. Physostigmine 50-150 mg/kg i.v. produced a dose dependent increase in mean blood pressure in rats and rabbits. However, in cats, a dose dependent depressor response to physostigmine 25-150 mg/kg i.v. was seen.

Table 1 : *Dose dependent blood pressure response to intravenous injection (i.v.) of physostigmine in anesthetized rats, rabbits and cats.*

	Dose	n	Before Treatment (mmHg)	After treatment (mmHg)	Δ BP (mmHg)
RAT	50 mg/kg	3	120 ± 2.3	140 ±2.8 **	+19 ± 1.4 **
	100 mg/Kg	5	118 ± 1.8	152 ± 2.0 **	+30 ± 2.6 **
	150 mg/Kg	3	120 ± 1.2	170 ± 2.6 **	+48 ± 1.6 **
RABBIT	50 mg/Kg	3	90 ± 3.4	100 ± 1.0 *	+9 ± 1.4 *
	100 mg/Kg	4	92 ± 2.8	120 ± 2.0 **	+19 ± 2.4 **
	150 mg/Kg	3	90 ± 2.8	121 ± 3.4 **	+30 ± 1.4 **
CAT	25 mg/Kg	3	120 ± 1.3	100 ± 3.8 **	-21 ± 1.4 **
	50 mg/Kg	3	125 ± 3.3	89 ± 2.8 **	-35 ± 1.0 **
	100 mg/Kg	9	120 ± 4.8	67 ± 2.4 **	-54 ± 2.4 **
	150 mg/Kg	3	124 ± 5.0	50 ± 5.4 **	-72 ± 6.0 **

Results are expressed as mean ±S.E.M. and n represents the number of animals. Physostigmine was injected intravenously and peak change in blood pressure was measured. Physostigmine produced a dose dependent pressor response in rats and rabbits, whereas, in cats, there was a dose dependent depressor response. Δ BP indicates the change in blood pressure. * P<0.05; ** P<0.01, (Two-way ANOVA with subsequent comparisons done by the Scheffee test).

Discussion :

Cholinergic agonists evoke qualitatively different cardiovascular responses from different regions of the brain. For example, blood pressure increases when these agents are administered by microinjection into the ventrolateral medullary pressor area[8,10,15,16], or hypothalamus[5]. On the contrary, depressor and bradycardic responses are observed when cholinomimetics are injected into the ventrolateral medullary depressor area[12] or into the nucleus tractus solitarii[11] in rats. The mechanism of the blood pressure response is supposed to be due to stimulation of central muscarinic receptors and subsequent increase in sympathetic activity[5,17,18,19]

Comparative studies with intravenous administration of cholinesterase inhibitors in rats, rabbits and cats were not peformed, and in this present study, we have found out a very significant species difference in the blood pressure response to intravenous injection of physostigmine. The dose of 100 mg/kg i.v. of physostigmine was used as a standard in the comparison among rats, rabbits and cats, since higher doses of 150 mg/kg or more, often caused respiratory inhibition necessitating artificial respir-ation. In rats and rabbits, a definite pressor response to intravenous injection of physostigmine has been found in this investigation and also reported as mentioned previously; and in cats, this study reveals a depressor response, using the

same anesthetic preparation. Rats were found to be highly sensitive in producing the pressor change, whereas, rabbits were less sensitive, the pressor response being not so marked as that in the case of rat. In cats, the hypotensive response was highly significant and almost immediately followed an injection of physostigmine 100 mg/kg i.v. The time required for the onset and peak change in blood pressure lessened dose dependently. It represents the time to achieve adequate enzyme inhibition to increase the endogenous acetylcholine level.

In a few experiments, the heart rate response to physostigmine was seen. In rats, an increase in heart rate was seen, while in cats there was a decrease in heart rate [13]. However, in rabbits, there were variable heart rate responses, and hence, no further attempt was made to analyze the results.

Many investigation in rats has been carried out to locate the site of action of cholinergic agonists producing various cardiovascular effects. Moreover, an experiment has revealed the existence of multiple muscarinic receptors in the central nervous system, stimulation of which produces definite pressure changes [20]. Experiments in decerebrated and in spinal cats [13] suggest that the action site of systemic injection of physostigmine is located in the medullary region of the brain stem, where exist cholinergic muscarinic receptors, which upon stimulation, evoke a depressor response. The blood pressure responses to intravenous injection of physostigmine, observed in our study were suppose to be mediated through a central mechanism.

In conclusion, the present study demonstrates that an intravenous injection of the cholinesterase inhibitor, physosti-gmine, which crosses the blood brain barrier, produces centrally mediated pressor responses in rats and rabbits, and a depressor response in cats, possibly through stimulation of the muscarinic receptors in the medulla. This study reveals an important species difference among rats, rabbits and cats concerned with blood pressure response to an intravenous injection of physostigmine, Further studies should be done with other species of animals, and using both anesthetized and conscious preparations. However, the physiological role of each species in this different blood pressure response has yet to be established.

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Need for Prolonged Dressing in the Management of Surgical Wound.

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Summary :

A prospective randomized clinical controlled trail was carried out on the 'Need for Dressing in the Management of Surgical Wound' from February '90 to September '90. A total 367 patients were randomized into two groups; in 195 patients dressing were applied for 24 to 36 postoperative hours and in 172 patients wound were left covered until the sutures were removed. Rate of postoperative wound infection were low in the group without dressing after 36 hours. Keeping the wound undressed it was easier to examine the wound on routine surgical round to detect earliest signs of infection. Short dressing time also reduced the nursing hour's and saved costly dressing material, so either the routine treatment of surgical wound with dressing is not necessary or removal of dressing after 36 postoperative hours has got certain advantages in the management of surgical wound.

(J. Bangladesh Coll Phys Surg 1993; 11 : 11-13) :

Introduction :

Covering of surgical wound with sterile dressing and left dressed untill the sutures are removed is the usual procedure in all aseptic operation. The purposes for wound dressings are: a) absorption of blood and exudate from the wound; b) protection of the wound from the injury; c) hemostatic effect and keeping 'dead space' closed; and d) protection of the wound against bacterial contamination[1]. All these helps in the primary healing of the surgical wounds. It has not been proved in human being that dressings are capable of preventing the access of bacteria to the wound, nor that carefully sutured surgical wound with hemostasis need this protection after 24 postoperative hours[2,3,4,5]. Only clinical trial dealt with this issue partly by retrospective account of surgical wounds treated without dressings[3,4] and partly from comparative testings based on limited material[5,6]. Chrintz H. et al in 1988 performed a clinical controlled trial based on statistically sufficient material on 'need for surgical wound dressing'. They found that either the dressing adds no protection against cross infection or the risk of cross-infection is low and nonexistant during the investigation period[6].

In our country the common practice is not to omit the need for surgical wound dressing after 24 postoperative hour. As no such study yet been done in our country it is doubtful wheather this procedure is exceptable in our environment where we can not ensure proper aseptic surgery and patients personel hygine in the postoperative period. On this background we have conducted a prospective clinical controlled trial on the 'need for dressing in the management of surgical wound' in our environment.

Materials and Methods :

Patients operated in Surgical unit-I of DMCH from Ist March to 30th September 1990 were included in this study. Patients under the age of 5 years were exempted. Clean, clean contaminated, contaminated and dirty wounds as indicated by Cruse[7] were considered.

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The study was prospective and randomized. Randomization done according to the bed number of the patients in the postoperative ward. In patients with uneven number sterile dressing were applied to the wound during the first 24-36 hours; thereafter being removed and left uncovered. In patients with even number; sterile dressing were applied to the wound from the end of the operation untill the sutures were removed. Wounds without dressing were examined on 2nd, 4th, 6th, 8th and 10th postoperative day for any signs of infection. Wounds with dressing were examined on suture removal or where indicated by rise of temperature or soaking of the dressing by wound secretion. Culture & Sensitivity of the pus or seropuratent discharge from the wound if any were performed. A wound was considered as being infected, when there is rise of temperature with secretion of pus or hyperpyrexia and serous or seropurulent discharge with positive culture[8]. Incidence and time of detection of wound infection in two groups were compared. The number of patients who needs change of dressing to detect local signs of infection, the amount of dressing material and nursing hours spended to change dressing also considered to be compared between two groups.

Results :

Three hundred and sixty seven patients were randomized in two groups. In 195 patients dressings were applied for 24 to 36 postoperative hours and in 172 patients wounds were left covered until the sutures were removed.

Table-I shows the incidence of wound infection in two groups. Eight of 195 patients with wound kept exposed developed infection whereas 12 of 172 patients of other group develop infection where wound kept covered. There is no significant difference between the infection rate in the two groups, though the infection rate is more in the group where wounds kept covered (x^2 test, $P > 0.2$).

Table-I

Showing the incidence of wound infection

Groups	Number of Patients infected	Number of Patients not infected	Total
Wound Kept exposed	8	187	195
Wound Kept dressed	12	160	172

x^2 (Chi-square) = 1.48' degress of freedom=1
$P > 0.2$ (i.e. Not significant)

Table- II shows number of patients in two groups who need change of dressing with the reasons for dressing change. In 195 patients where wounds kept exposed 8(4.10%) patients requires change of dressing for infection. In other group 58(33.72%) of 172 patients reguires change of dressing, 42 for inspection of wound to detect sign of infection and 16 for soaking of the dressing with secretion or pus. No patient without dressing needs to apply dressing as a result of secretion from the wound.

Table-II

Change of dressing and surgical intervention of wound

Reasons	Wound exposed (n=195)	Wound covered (n=172)
Inspection of wound	0	42(21.53%)
Dressing soaked	8 (4.10%)	16 (9.30%)
Total intervention	8 (4.10%)	58 (33.72%)

Discussion :

The main objective of this study was to see whether it is necessary to cover the surgical wound with dressing. Two purposes of dressing, absorption of blood from the wound and hemostatic effect, can be fulfiled by keeping the wound covered for first 24 postoperative hours. Some authors believe that dressings protect the wound from cross infection in the ward[9]. But it is known that sealing and gluing of the surgical wound by the coagulum of fibrin and red cells occur within a matter of minutes. This sealing seems to be an effective barrier against bacterial contamination from external sources[10,2]. Also continuous but thin epethelial layer beneath the coagulum of fibrin developed within 24 hours[10,11] may form a protective barrier against wound contamination by micro-organism. If the above two statements are not correct and a conventional wound dressing protects wounds against cross infection after 24 postoperative hours then the infection rate would have been higher in those patients where wound kept exposed. But this study shows lower incidence of infection then those patients where wound kept covered though the difference is not significant ($P > 0.2$). So it seems that either dressing adds no protection against cross infection or the risk of surgical wound infection is low without dressing.

It is observed that there are certain advantages in keeping the wounds undressed. These are (a) examination of the wound on routine surgical rounds and detection of earliest signs of wound infection so that appropriate measures can be taken earlier, (b) reduction of the nursing hours used to change the dressing and also save of costly dressing materials and (c) easy maintainence of personal hygine by the patients.

This study conclude that it is not necessary to keep the surgical wound covered with dressing after 36 postoperative hours rather it is advantageous to keep the wound exposed. Routine wound dressing is based on tradition and is not scientifically supported.

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A Study on Self Care Practices in a Rural Area of Bangladesh

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Summary :

Four hundred and fifty six respondent from 228 families which were randomly selected from three villages of Palashbari upazila under Gaibandha district to collect information about their personal health care. Head of the family and his wife were interviewed from each family on a pretested questionnaire. It was found that almost all took care their teeth and bath daily. About half (45.40%) of the respondent did't wash their hand after defecation and mean nail cutting time was found 1.98 weeks. Almost half (51.10%) of the respondent took their meal regularly. Again 49.34% of the rural people initially reported to the local doctor (quack), for the treatment of their illness and 44.08% respondent practiced the advises provided by the health personnel.

Strengthening of health education programme about personal hygiene in the rural area was therefore recommended.

(J. Bangladesh coll Phys Surg 1993; 11 : 14-18)

Introduction

Self care or personal health care is a factor of life style of individuals, which is composed of cultural and behavioural pattern and life long personal habit, reflecting a whole range of social values, attitudes and activities.[1] Health requires the promotion of healthy life styles. It is now established that there is an association between health and life styles of individuals.[2]

Self care or personal hygiene therefore deals with the measures which are the personal responsibilities of the individuals for the promotion of good health.[3] So self care practice is a determining factor for the health of an individual and whole communitiy. This practice varies in different socio-cultural, economic and ethnic groups. Self care practice therefore constitutes a factor for the formulation of national health planning. The present study is a modest attempt to deal with the common personal health care practices among the rural people.

Materials and Methods :

This study was conducted in three villages of Hossainpur union under Palashbari upazila in the district Gaibandha during the month of February 1992. Three villages were selected within 5 km from upazila health complex randomly. The sample consists of 456 respondents of which half (228) were head of the family and rest (228) were their female partner. The families were selected randomly from the all families of the said three villages.The information were collected by the 4th year MBBS students of Rangpur medical college for two consecutive days from 10. a.m. to 2 p.m. maintaining privacy. A total of 57 students were involved in taking interview of eight families per head.

Interview was made with the help of a structured questionnaire which was duly pre-tested and briefed to the students beforehand. Each interview took about 25-30 minutes. The questionnaire includes questions on various important day to day health practices being practiced by the rural people, which have clear association with the causation of diseases and promotion of health. It includes sleeping practice, bath, nail cutting and other self care practices. It also included the initial steps taken by the rural people for treatment of their illness. Responses were rechecked with the respondents for errors and inconsistencies. Data thus obtained were processed manually and analysed. Mini electronic calculator was used for those purposes.

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Results :

Age : Mean age of respondent was 32.30 years. Of the total 456 respondent, 130 and 95 respondent were in the age group 30-34 and 25-29 years respectively. 24 (5.26%) i.e. respondent were aged below 20 years and 17 (3.73%) were 50 years and above.(Table-I)

Table : I

Distribution of respondent by their age.

Age in years (n= no of respondents	Percentage
15-19 (n=24)	5.26
20-24 (n=57)	12.50
25-29 (n=95)	20.83
30-34 (n=130)	28.51
35-39 (n=58)	12.72
40-44 (n=42)	9.22
45-49 (n=33)	7.23
50+ (n=17)	3.73
Total (n=456)	100.00

The mean age : 32.30 years.

Occupation : The respondent were mostly cultivators (75.44%). Of the total 456 respondent, only 33 (7.24%) were service holders and 47 (10.31%) were businessmen. (Table-II)

Table : II

Distribution of respondent by their occupation.

Occupation (n= no. of respondent)	Percentage
Cultivation (n=344)	75.44
Service (n=33)	7.24
Business (n=47)	10.31
Others (n=32)	7.01
Total (n=456)	100.00

Table : III

Distribution of respondent by their sleeping habit.

Time of sleep (n=no. of respodent)	Percentage	Time of awaking n= no. of respodent	Percentage
8 p.m. (n=153)	33.55	5 a.m (n=27)	5.92
9 p.m (n=103)	22.59	6 a.m (n=293)	64.25
10 p.m (n=136)	29.82	7 a.m (n=129)	28.29
After 10 pm1 (n=64)	4.04	After 7a.m (n=07)	1.54
Total (n=456)	100.00	Total (n=456)	100.00

(The mean sleeping time : 9.14 p.m & the mean awaking time: 6.15 a.m.)

Personal hygiene practice : The mean sleeping time and awaking time was 9.14 p.m and 6.15 a.m respectively (Table-III). Of the total 153 (33.55%) went to bed at night at or before 8 p.m and only (14.34%) used to go to sleep at or after 10 p.m. Majority of the respondent (70.17%) awaked at or before 6 a.m and only 7 (1.54%) rose from bed after 7 a.m. Almost all 98% took care of their teeth daily and 96.05% respondent took bath regularly. Again most of the respondent

89.25% took care of their bowel regularly. It was observed that of the total 456 respondent, 249 (54.60%) washed their hands with soap after defecation and rest did't practiced it (Fig-I). Again about half (51.10%) of the respondent reported that they took their meal regularly. The mean time of nail cutting was found 1.98 weeks. Nail cutting at two weeks interval was reported by 44.96% & and one week by 41.88% respondent (Table-IV).

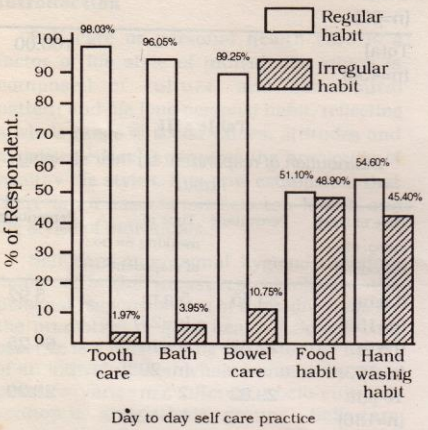

Fig -I : *Bar diagram showing distribution of respondent by some day to day self care practices*

The initial reporting about the disease of the respondent for himself or family members to the local doctor were by 49.34%, to the UHC by 27.20% and to homeopath by 10.31% respondent (Table-V). The health education provided by the health personnel were practiced by 44.08% and not practiced by 14.25% respondent. Of the total 456 respondent, 190 (41.67%) mentioned that they ware not much particular about the practice of health education advice provided by the health personnels (Table -VI).

Table : IV

Distribution of respondent by nail cutting habit.

Time of nail cutting (n=no. of respondent)	Percentage
1 week (n=191)	41.88
2 weeks (n=205)	44.96
4 weeks (n=31)	6.80
More than 4 weeks (n=29)	6.36
Total (n=456)	100.00

The mean nail cutting time is 1.98 weeks.

Table: V

Distribution of respondent by the initial steps taken by them for their illness.

Steps (n=no. of respondents)	percentage
At UHC (n=124)	27.20
Local doctor (n=225)	49.34
Homeopath (n=94)	20.61
Kabiraj (n=13)	2.85
Total (n=456)	100.00

Table : V1

Distribution of respondent by their health education practices provided by health personnel.

Practices (n=no. of respondent)	Percentage
Practiced (n=201)	44.08
Not practiced (n=65)	14.25
Not much particular (n=190)	41.67
Total (n=456)	100.00

Discussion :

The data regarding self care practices which are collected from the three villages among rural people are a clear deviation from the healthy practices. There is very little information in this regards specially in Bangladesh. So it is difficult to compare the result of this study with others.

The mean age found in the study was 32.30 years which is more or less consistent with the study of self care in health,[4] and the occupation of the respondent was mostly cultivation because the study was done in the rural area where cultivation is the main occupation. It is found that the mean sleeping time at night and awaking time in the morning was 9.14 p.m and 6.15 a.m respectively; which shows the sleeping habit among the rural people is healthy one. About care of the teeth and bathing habit, almost all of the respondents were found regular but the way of practice was not recorded and lying deficiency in this regards. One important observation about the washing of the hand with soap after defecation recorded in this study is that 54.60% respondent did this practice and rest did't and the mean nail cutting time was found 1.98 weeks. These two observations reflects the factors for which disease transmits through faeco-oral route which are most prevalent in the rural area of Bangladesh. Again about 51.10% of the rural people took their meal regularly and rest did't which may be an attributing factor for the causation of peptic ulcer.

One important information from the study that about half (49.34%) of the rural people reported to the local quack doctor for their illness which is consistent with the findings of Das[5] which is 35.1%-68.2% in his study. This figure is also consistent with the figure of Claquin[6] which is 50%.

Only 27.20% rural people utillized UHC for first step to deal with their illness which is also consistent with the finding of Das[7] which is 13%-29%. Homeopathic doctor was consulted by 10.31% respondent which is also consistent with the findings of Das. This finding will help to the policy maker for an effective health care planning for the rural people. Only 44.08% respondent practiced the advices provided by the health personnel during their health education activities which criticises the health education system provided by the health personnel to the rural people.

So in the light of these findings of the study, it appears that, rural people are not much aware about their personal health care. So health education and information, education & motivation (IEM) activities should be strengthened to give serious attention of government to undertake vigorous social campaign and mass mobilization on self care practice and finally preventive and promotive aspects of health care if "Health for All by the year 2000 AD" should be achieved.

Acknowledgement:

The authors are grateful to upazila health and family planning officer and field staffs of Palashbari upazila health complex for their co-operation in conducting this study. Acknowledgement is also due to the lay people of the three studied villages who made this study possible.

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Intra Ocular Lens Implantation

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Summary :

Intraocular lens (IOL) implantation is the modern and most suitable treatment of cataract. Due to lack of facilities in our country this has not yet developed widely. In the department of ophthalmology, Institute of Postgraduate Medicine and Research, Dhaka we organised the first series of IOL implantation.

We selected the patients from the admitted cases waiting for cataract surgery. As A-scan ultrasonography is not available, we used only average power IOLS.

One hundred ten cases were studied, 45% cases regained good vision (6/6 to 6/12) including some patients corrected with spectacle lenses. Thirty percent recent cases has got vision 6/18 to 6/36 which are expected to improve in due course. Another 25% patients did not turn-up for follow-up.

We have got quite satisfactory and encouraging results of the study which may be contributory to the field of ophthalmology.

(J. Bangladesh coll Phys Surg 1993; 11 : 19-23) :

Introduction :

Intraocular lens (IOL) usually made of Polymethylmethacrylate (PMMA) is the replacement of ocular lens which is implanted after the extraction of cataract for the correction of aphakia. This artificial lens may be put in the anterior chamber (AC), pupillary plane or posterior chamber (PC) after removal of cataract. Now-a-days this method is widely used as the best method for optical correction in aphakia.

With this method a thick and heavy spectacle lens can be avoided. The eyes of the user appear bigger through the thick spectacle lenses which can also be avoided. We can further prevent the other problems of aphakics spectacles like limitation of visual field, magnification problem and abberations etc. IOL implant is appropriate for correction of uniocular aphakia and prevention of amblyopia in childhood.

In Bangladesh due to lack of proper facilities in all the eye centres, surgeons are not in a position to practice IOL implantation routinely. However in a few centres the modern operation is being performed. In IPGMR we first started implantation with AC type of lens in 1986.

Materials and Methods :

The IOL series was started for the first time in the P.G. Hospital in November, 1986. Suitable cases were selected from the admitted patient waiting for cataract surgery. We included senile cataract, traumatic cataract and complicated cataract in the series. In senile cataract more advanced in one eye than the other, the IOL was put in the former and the later was followed up regularly for IOL surgery in due time. In bilateral almost equally advanced cases IOL were given in both the eyes in single admission but in two different session with an average interval of 3 weeks. We were a bit liberal to select the cases and excluded only the cataract with active uveitis, proliferative diabetic retionpathy, high myopia and glaucoma.

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As Ultrascan A is not available here we could not calculate the actual power of IOL for a particular patient. The approximate power of the lens was assessed with the help of refraction of good eye and previous records of refraction[1,2,3] we used the average power lenses (+19.0 D to + 21.0 D) for posterior chamber (P.C.) lenses.

Intraocular Lens (IOL) was received as donation from ORBIS. Irrigating solution (B.S.S=Balanced Salt solution) was produced and supplied by International Centre for Diarrhoeal Diseases Research, Bangladesh (ICDDRB) on request.

In premedication we used only Tab. acetazolamide 250 mg in the morning and Inj. Diazepam 10 mg before operation. All the operations were performed under local anaesthesia except one child. We used to give enough massage over the eye ball after ciliary block to make it soft.

In the first 6 cases of the series Anterior Chamber (AC) type of lenses were inserted after Intracapsular Cataract Extraction (ICCE). The lens style was universal Mk-4 with average power of + 18 D. All the operations were performed under operating microscope. The rest of the lenses inserted were PC type.

In case of PC type of lenses we used to make fornix based conjunctival flaps, about 140° limbal incision, anterior capsulotomy, extraction of nucleus and meticulus aspiration and irrigation of cortical matter with double way cannula using B.S.S.

The extraction was Extracapsular leaving the posterior capsule intact. The wound was sutured on the sides leaving a gap 8 to 9 mm for introduction of lens. The lens was introduced with IOL forcep into the posterior chamber with fully formed anterior chamber. The haptics were fixated in the iridociliary sulcus.

We performed irrigation and aspiration (IA) of the cortical matter with normal saline and Ringers solution in the begining then we had regular supply of B.S.S. from ICDDRB.

Cushioning material like 1% sodium Hyalurinate and 2% methyl cellulose were not available here and we used B.S.S. as substitute to form AC.

Most of the PC lenses were J loupes and C loupes type. Some of these were single piece lenses and some were blue loupes. The measurement of the optics of the IOL varied from 6 mm to 6.5 mm and haptics were from 13 mm to 13.5 mm.

In most of the cases the implantation was smooth and uneventful on the table. In a few cases we had to face positive pressure of the vitrous, repeated prolapse of the iris out of the wound, difficulty in froming AC, pupillary constriction and inadequate removal of cortical matter. In some cases the pupil was deformed due to the push of the haptics which did not respond to strong miotics on the table. Some IOL's had less flexible loupes due to which we felt difficulty to put proximal loupe behind the iris. In these cases lot of pigments was dispersed from the iris during manipulation of the proximal loupes. In one case posterior capsule and vitrous phase was broken by the lens haptics and in another two cases the same thing happened during IA. All this 3 cases IOL implantation were abundoned.

Except bilateral cases we kept the patient in the ward for 1-2 weeks for close observation. In the 1st 3 days patient was under daily dressing and then they started to use dark glasses. The patient were followed up at the interval of 15 days to 1 month for 6 months to 1 year.

Spectacle corrections were made when the eye was quiet and when it was indicated.

Results :

In the series 110 cases were followed up. Among the post operative complications pupillary irregularities like increased size of the pupil, slight updrawn pupil and slight oval shape of the pupil were detected in some cases. Loss of pigment in the upper part of the iris happened in some cases. Remnant of cortical matter were left in the few cases which are expected to be clear in due course. Posterior synaechia developed in a few cases. Posterior capsular thickening, secondary glaucoma and dislocation of IOL developed only in a very few cases. One case of " foot in wound syndrome" another case of "sun set syndrome" were found. Possible measures were taken for the complications with satisfactory results.

Table-I

Visual Results: (At the time of discharge)

Visual acuity (unaided	A.C Lenses.	P.C. Lenses
6/6	01	02
6/9	-	06
6/12	01	08
6/18	-	15
6/24	02	16
6/36	02	16
6/60	-	21
less than 6/60	-	17
	= 06	= 101

(* 3 lenses abundoned).

Table-II

Visual results: (After spectacle correction)

Visual acuity	AC lenses.	PC Lenses	Total	%
6/6	02	28	30	28%
6/9	01	09	10	09.3%
6/12	01	07	08	07.4%
6/12 6/30	02	30	32	29.9%

* 27 Patients (25%) did not turn-up for follow-up.

Table-III

Visual results of the Wilmer Institute series. 1987.

Visual acuity	No. of cases	Percentage.
6/6	1668	60%
6/9	501	18%
6/12	306	11%
Less than 6/12	305	11%
	= 27809 (P.C. IOL)	

Discussion :

There are some changes in the ocular tissues in case of complicated and traumatic cataract, which are absent in senile cataract. So the senile cataract cases are most suitable for IOL implication. This was clearly observed in our series.

In our first series we clearly felt that after local anaesthesia when the eye was soft enough the implication was much easier. so soft eye ball is one of the important criteria for better IOL Implantation.[4.5.6.]

In none of the cases we perform any iredectomy with the apprehension that the

haptic may enter into the iredectomy hole.[7,8,9].

As cushioning material like 1% Na Hyalurinate and 2% methyloellulose were not available we used air for AC types of lenses and B.S.S. for PC type of lenses and the implantations were quite smooth. So B.S.S. and air can be substituted for cushioning material[10,11].

In some cases there was excessive loss of pigment from iris during instrumentation even in non-diabetic patient. We think this loss may be common in pigmented race[12].

In a few cases of immature cataract it was difficult to remove the cortical matter completely by IA. Some lens fibres are rather adherent to the posterior capsule peripherally and they were not fully absorped subsequently. In other cases soft cortical matter left behind the iris were not the problem, they were absorped completely. In some hypermature cataract posterior capsule was thin and zonule was weak so these were not the suitable cases for IOL as posterior capsule was easily ruptured and zonule torn away during IA and implantation[13].

We found irregularities of shape and size of the pupil in a few cases which might be due to posterior synaechia or damage to sphincter during instrumentation. A few pupils were slightly drawn up the cause of which might be incarceration of the iris root in the inner wedge of the limbal wound.

Fortunately problems like shallow AC, CME, UGH syndrome, VIP syndrome etc. were not found.

Visual result was not unsatisfactory. In Table-II it has been shown that 6/12 or better vision was about 45% which is much lower in comparison with Wilmer Institute[9] which was about 89% as shown in Table-III. In our series 25% patients did not turn-up for follow-up. We can assume that most of them are satisfied with their unaided vision and possibly they possess 6/12 or better vision with optical correction. So we can say that in reality 6/12 or better vision in our series was about 70%. Moreover 30% recent cases have got vision 6/18 to 6/36 which are expected to improve in due course.

For better result follow-up of post-operative cases are very essential but unfortunately many of our patients showed poor response to our follow-up instruction.

Though this is the first series and we had to face difficulty in organising the programme and we overcome many of the difficulties and also we implanted average power lenses, we think that the ultimate results of the series is quite satisfactory. We hope IOL surgery in this country will continue at large scale rapidly.

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We are indebted to Director, IPGMR, for his kind permission to publish this paper.

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Overview of Malnutrition in Bangladesh

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Introduction :

Malnutrition is a global problem but it is of special interest for 3rd world poor countries like Bangladesh. It causes high mortality and morbidity. It has been found that in developing countries 25-50% children die before their 5th birth day and 50% of death are some how related to malnutrition[1]. In Bangladesh 30% of children below 5 years of age die of malnutrition and infectious causes[2]. High population density[3] with children population 47%[4], illiteracy, underprivilleged dependent women and high percentage of landless people (65%)[5] are several factors which are influencing the nutritional status of Bangladeshi people.

In Bangladesh malnutrition is not only of protein and calorie but also of deficiency of the nutrients and minerals like iodine, iron, Vitamin-A, Vitamin-B especially riboflavin, thiamine, niacin, Vitamin-C, calcium etc.[6-8]. The present paper will high light the protein energy malnutrition which is a burning problem in Bangladesh and will also discuss the intervention which are already going on in different fields.

Magnitude of the problem :

There are three nutritional surveys done so far in Bangladesh dates of survoys which reveal a static or deteriorating picture of nutritional status in Bangladesh[6-8]. About 90% of the population are deprived of adequate food qualitatively or quantitatively in different series. The main bulk of these population are children a pregnant or lactating women[4]. The majority of under five children are suffering from some grade of malnutrition (76% in 1975-76[7], 61% in 1982-83[8]) of which 25% were severely malnourished[7]. Chronic malnutrition constitute about 70% evidenced by stunting[8]. The clinical presentation of severe degree malnutrition is also reported to have changed to more marasmic-kwashiorkor cases than before[9,10,11,12].

Protein energy malnutrition is usually accompanied by other deficiencies or infection. Xerophthalmia is one of the common association. At least 17000-30000 children of 1-6 years of age become blind every year due to Vitamin-A deficiency[13,14]. It was estimated that 16% of all death in pre-school children in developing countries are associated with Xerophthalmia. Children with Xerophthalmia have4-12, times more chance of death from ARI than children with normal eyes[15].

Iodine deficiency is a major problem in Bangladesh. Visible goitre was found in 10.5% of our population[4,16], but the incidence of iodine deficiency disorder is yet to be surveyed. Intake of Vitamins and minerals were much below the recommended daily allowances. In two survey reports the average intake of vitamin-A, Vitamin-C, riboflavin and iron has been shown as follows:

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Item	year of survey	Daily intake person/day	Percentage of daily requirements(%)
Vitamin-A	1975-76[7]	714 I.U	35%
	1981-83[8]	808.4 I.U	40%
Vitamin-C	1975-76[7]	9.03 mg	35%
	1981-83[8]	12.8 mg	50%
Riboflavin	1975-76[7]	0.85 mg	63%
	1981-83[8]	0.69 mg	51%
Iron	1975-76[7]	22.2 mg	29%
	1981-83[8]	23.8 mg	31%

Though the iron intake is high yet there is paradoxical high incidence of iron deficiency anaemia in our country. It might be related to source of iron (mainly vegetable source), low Vitamin-C intake(Which helps in iron absorption), malabsorption and also the high prevalence of helminthiasis[17]. The malnourished infants and children have plasma zinc deficiency[18,22]. Though there is no data on zinc status in population but zinc supplementation has shown a positive effect on growth [2,22].

Risk factors :

Several risk factors for the development of malnutrition have been identified. These include:

- Poverty
- Food shortage and population explosion
- Natural calamities and seasonal variation
- Intercurrent infections
- Faulty feeding practices, colostrum rejection, bottle feeding, dilute feeding, late, weaning.
- Maternal nutrition and low birth weight
- Poor sanitation
- Migration.

Poverty :

Poverty is one of the important risk factors for developing malnutrition. Bangladesh is one of the world's poorest countries with an average per capita income US$120, and majority of its population lives below the poverty line[23]. Some of the people are very much poor with monthly income from Tk. 600 ($15)[11] to even Tk. 460 ($ 12) [24] and most of their income has to be spent for food purchase. Many of these people has no regular income[11,24]. This low income and increase in population results in gradual low calorie intake e.g. 2301 kcal in 1962-64, 2094 kcal in 1975-76 to 1943 kcal in 1981-82 surveys [6-8]. The intrafamily food distribution is lower for women (1599 kcal)[25].

Ignorance and illeteracy :

Literacy rate is very low in Bangladesh (23.8%)[5] and children of illiterate parents are more vulnerable to malnutrition[9,11,23]. Ignorance results in improper feeding practice, child rearing and ultimately leads to malnutrition. Ignorance plays a decessive role in continuing malnutrition in the country[26]. Illiteracy and ignorance are usually inter related.

Food shortage, population explosion, natural calamities and seasonal variation:

Majority of our population are dependant on agriculture[4]. Twelve years back the calorie supplied through local agricultural products was 1521 kcal [26] . Since then population is growing much faster than agricultural production. Naturally more people are sharing the same even lower energy and becoming more vulnerable to malnutrition. Natural calamities deteriorate the situation further by crop destruction. Natural calamity like flood, storm, drought is a regular disaster to our people. There is seasonal variation in prevalence of malnutrition e.g. Malnutrition

rate rises in August-September, the pre harvest hungry season for Aman rice[4,27].

Intercurrent infection :

Infection and malnutrition makes a vicious cycle which often result in death of children[23]. Diarrhoea, ARI, helminthiasis, tuberculosis and urinary tract infection are the common infections with malnutrition [2,9-11,24]. Intercurrent infection and illness occupy 75% of child's life time in a developing country[28]. Diarrhoeal incidence is twice in malnourished then in normally nourished child[29]. ARI is many items higher in malnourished children[30]. The famous Leonard Mata's[31] curve clearly shows the effect of early infection and cycle of infection and malnutrition.

Faulty feeding practice :

Malnutrition specially early malnutrition is mainly related to feeding practice. Though most of the women breastfed their babies in Bangladesh majority of marasmus occur in infancy and commonly below 6 months[32]. The faulty feeding practice might be the cause of lactational failure. As for example, colostrum rejection is almost universal here[32]. On the other hand mothers nutrition is not maintained properly, as a result mothers are producing insufficient milk. For that reason parents are buying costly formula milk which they can not afford and they are making dilute milk for their babies to make up the cost effectiveness, which is the main cause of malnutrition of our children population. Moreover feeding bottles carry increased risk of infection[32,33]. It was found that one third of death in the age range of 18-36 months was attributible to absence of breast feeding[34]. The weaning food is also improperly used which is either started earlier or unduly delayed (77%)[9] both of which are risk factors for developing malnutrition. Weaning foods of our country are also mostly poor in energy content. It was found that energy and protein intake is nearly half of recommended amount in children under 30 months of age[13].

Maternal nutrition and low birth weight babies :

Maternal nutrition is a very important factor for developing malnutrition in children. An average Bangladeshi mothers weighing 41 kg gain only 5 kg weight during whole pregnancy. Because of this there is intrauterine growth retardation and 50% new borns are of less than 2500 gm weight[36]. These infants are vulnerable to adverse environment leading to development of extrauterine malnutrition.

Migration and sanitation :

Migration increases the incidence of malnutrition. With rapid industrialization more people migrate from rural to urban area increasing the slum by 10% annually[13]. In one study[9] migration rate was 73%. The unhygenic and poor sanitary status of our rural as well as urban slum expose their children to higher rate of infection and exacerbation of cycle of infection and malnutrition[4,23].

Intervention of protein energy malnutrition:

As it is an enormous problem Nutrition Intervention programme and commitment of the Government are essential to reduce the magnitude and severity of malnutrition in Bangladesh[4].

Role of Nutrition Intervention Programme:

Any programme to prevent malnutrition in this country must take care of the children, the mother and pregnant women as they are the most deprived group in the society. Adequate facilities need to be available to prevent low birth weight babies.

Nutritional anaemia during pregnancy should be adequately treated. Women during child bearing should be immunized to prevent tetanus related morbidity and mortality. The birth should be spaced adequately by proper family planning. Early marriage and pregnancy should be avoided. Mothers should be motivated to breast feed babies and to offer first feed as early as possible after delivery. The colostrum must be given to the baby. Weaning should be done at proper time in proper way. Children should be protected from communicable diseases through expanded programme of immunization. Deworming should be done at least once in six months. Besides safe drinking water, povision of low cost water-sealed latrines and personal cleanliness in daily life are also important. Growth chart should be incorporated in medical and community health care projects, so that growth faultering and malnutrition can be easily detected. It should be done with community participation including the mothers. Health sector activities to prevent malnutrition[4] are :

(a) Nutrition rehabilitation centre
(b)Vulnerable and group feeding scheme
(c) Nutrition and health education
(d) Introduction of growth chart
(e) Expanded programme of immunization.

Nutrition education and use of mass media for disseminating the nutrition message for the people should further be strengthened. Basic health education should be incorporated in primary and secondary school level. Women should be organised to form mothers club at community level. A nationwide organised effort is required for creation of employment opportunity and income generating activities in rural areas specially for distressed women and landless people. Intense labour-oriented industrialization is essential in this country. So solution of nutritional problem needs multifaceted approach.

The management of severe protein energy malnutrition has to be done in hospital setting. The common problems associated with malnutrition are hypothermia, hypoglycaemia, infection, dyselectrolytaemia ets. Hypotermia can be managed with proper clothing, hypoglycaemia etc. Hypothermia can be managed with proper clothing, hypoglycaemia by immediate and round the clock feeding (e.g. 2 hourly feeding). Energy is calculated from existing weight and full energy may be started at the begining[10] or gradual build up[37]. Fluid input is restricted in oedematous cases[9,10,37]. Antibiotics are to be prescribed as per individual case but all should be supplemented with potassium (3-5 mg/kg/day), magnesium (2-3 mg/kg/day as mag sulph) and zinc (3-10 mg/day)[9,10]. Other symptomatic measures to be taken accordingly. Regular weighing is important to see the progress of the patients. With this management there is remarkable decrease in mortality from 25%[37] to around 5%[9,10,12,37].

Conclusion :

These children should be rehabilitated because it has been found that when they go home there is repeatation of the cycle and they come back with same problem or die.

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Familial Hypercholesterolemia Type-II B-A Case Report

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Summary :

A young male of 25 years presented with multiple xanthoma at the outpatient department of Sher-e Bangla Medical College Hospital, Barisal. He was diagnosed as a case of familial hypercholesterolemia type-II B on the basis of clinical features, family history, serum lipid profile and histopathologic findings. The patient had all the features typical of the condition with some unusual unexplained features. He had all varieties of xanthomas including plane xanthoma, eruptive xanthoma, tuberous xanthoma; his mother and one brother had multiple keloids developed from tiny scars of boils. This prompted us to present this case.

(J. Bangladesh Coll Phys Surg 1993; 11 : 30-33) :

Introduction :

Elevated concentration of lipids (hyperlipidemia) occur as a result of inborn error of metabolism or secondary to variety of disease states. Two life threatening complications—premature atherosclerosis and recurrent pancreatitis bring its importance in clinical medicine. Familial hypercholesterolemia is a genetically determined disorder rarely encountered in clinical practice. Biochemically, on the basis of serum lipid profile two types are recognized. They are type II A and Type II B. The latter constitutes about 10% of the familial hypercholesterolemias. Its proper diagnosis is important because proper management may prevent disability and delay death of the patients as well as other unaware members of the family.

Case Report :

A 25 years old young male attended the outpatient department of Sher-e Bangla Medical College Hospital, Barisal for gradual development of painless nodular erruption throughout the body for the last two years and retrosternal chest discomfort for last one year.

He is an unmarried shopkeeper, a sedentary worker, nonsmoker, nonalcoholic and comes from poor socio-economic background. He has a normal apetite with a diet average for our community i.e. dominated by carbohydrates. He has no diabetes, hypertension or obesity. He did not complain of any cold intolerance, constipation or hoarseness of the voice. He has no abdominal pain or urinary problem or features of claudication or transient ischaemic attack.

His complexion is fair with a yellowish hue in the skin. Pulse and blood pressure are normal. Arterial wall is palpable over all the major arteries. Apex beat is found in normal position. Auscultation reveals ejection systolic murmur over the aortic areas suggesting aortic stenosis. Bruit is felt over the left carotid artery. Xanthelesma is present over the both eyelids and xanthoma striata palmaris over both palm creases. Xanthoma tendinosum is found along all long tendons including Achillis tendon (Fig-1). Tuberous xanthomas are found over the extensor surfaces of both elbows (Fig-2). Tuberoeruptive xanthomas of pea to lemon size are present over the buttocks and back of the thighs. Arcus juvenilis is absent.

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Fig-1. *Showing tendon xanthomas along the long tendons of the extremities.*

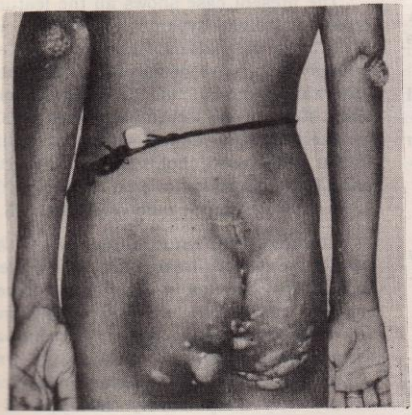

Fig-2. *Showing the tuberous xanthomas at the elbows and eruptive xanthomas at the buttocks and back of the thighs.*

Family History :

The patient's father died six months ago from sudden severe chest pain and one and half year back his younger brother died of similar type of chest pain. That brother also had yellowish nodular swellings like those of the patient. There was no consanguity in his family. His mother aged about 50 years and one brother (20 yrs) have multiple keloids over various sites of the body. These are distributed over the sternum, front of the chest, scapular region, lumber regions and the thighs. As the history suggests these developed from the tiny scars of boils. The other brothers and sisters of the patient are free from these types of abnormalities.

The pedigree chart is given in the fig-3.

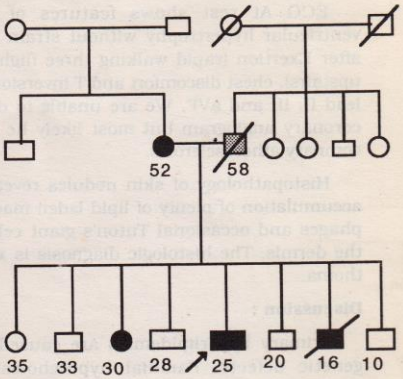

Fig-3 : *showing the pedigree chart of the patient's family.*

Investigations :

Routine blood count, ESR, Hb%, routine urine & Stool analysis and Fasting blood sugar shows no abnormalities.

Serum lipid profile (fasting) of the patient shows-

Serum cholesterol	320 mg/dl (8.32 mmol/L)
Serum triglyceride	240 mg/dl (2.71 mg/dl)
Serum B lipoprotein	740 mg/dl
Serum total lipids	1252 mg/dl
Serum HDL cholesterol	50.4 mg/dl (1.3 mmol/L)
Serum LDL cholesterol	222 mg/dl (5.77 mmol/L)
Serum cholesterol (patient's mother)	353 mg/dl
Serum cholesterol (patient's sister)-	292 mg/dl 7.4 mmol/L)

In X-ray chest, heart is enlarged in transeverse diameter and in X-ray hands and feet, no bony abnormality is seen.

ECG At rest shows features of left ventricular hypertrophy without strain and after Exertion (rapid walking three flight of upstairs), chest discomfort and T inversion in lead II, III and aVF. We are unable to do a coronary angiogram but most likely he has coronary atherosclerosis.

Histopathology of skin nodules revealed accumulation of plenty of lipid laden macrophages and occasional Tuton's giant cell in the dermis. The histologic diagnosis is xanthoma.

Discussion :

Primary hyperlipidemias are caused by genetic defects. Familial hypercholesterolemia is the commonest primary hyperlipidemia resulting from single gene mutation. The condition is transmitted as an autosomal domionant trait. Recent advance in molecular genetics revealed that familial hupercholesterolemia results from mutations affecting the gene specifying the receptors for LDL. The phenotypic effect of this mutation may be either absence of functional receptors or defective receptors or defective internalization following receptor binding[1].

Clinically familial hypercholesterolemia is characterized by accelerated and premature atherosclerosis and their complications such as myocardial infarction. Other features of the condition include xanthomas, xanthelesma, aortic stenosis and arcus corneas[2].

Two categories of serum lipid pattern type II-A and type II-B are recognized in familial hypercholesterolemia. Of these type II-B constitute only 10% of all familial hypercholesterolemias. In both the types serum LDL is increased, serum HDL is lowered and a prominent band is seen in electrophoresis. In type II-A serum cholesterol-triglyceride ratio is more than 1.5 and the pre B band is of normal intensity. In type II-B there is concomitant increase in serum triglyceride and VLDL[3].

The present case shows all the features typical of familial hypercholesterolemia type II-B. Thus the patient has family history strongly suggestive of autosomal dominant inheritance, tendon and other xanthomas, aortic stenosis and ischemic changes in ECG on exertion. The fasting serum is slightly turbid with raised cholesterol, triglyceride and LDL levels and a lowered HDL level. The cholesterol triglyceride ratio is less than1.5.

However, some unusual features of this case make it more interesting. This patient has got all varieties of xanthomas namely tendon xanthoma, eruptive xanthoma, tuberous xanthoma, plane xanthoma (xanthoma striata palmaris) and xanthelesma. Although tuberous xanthomas occur only very rarely in type II-B hyperlipidemias plane xanthomas occur only in type III hyperlipidemias, these are present in our patient.

Another very peculiar feature of this case is the presence of multiple keloids in the mother and one of the brothers of the patient. The history suggests these keloids developed from the tiny scars of boils. Familial tendency of keloids has been documented by some authors but whether these keloids are mere coincidence or bear relationship to familial hypercholesterolemia yet remains unexplained[4].

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Multiple Primary Malignant Tumors-- A Case Report.

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Summary :

This paper reports the case of an old male, who had three 'heterochronous' cancers (can be defined when the interval between the two tumors occuring is more than one year) in three different organs of the body (i.e. tonsil, ileum, and bronchus) within a period of eleven years (from 1980 to 1991). The aim of this article is to draw reader's special attention to the facts that, three primary malignant tumors in the same individual during his life time is very rare, but may occur. From this case report, it can also be recognized that if proper treatment in a proper time can be given to a cancer patient and if regularly and carefully followed up, each and every patient with multiple primary malignancies like this case may get a symptom free survival benefit for more than 5 or even 10 years.

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Introduction :

The occurrence of second or even multiple malignancies in patients with an index neoplasm is a long recognized phenomenon[1]. In 1869 Theodor Billroth reported the first case of multiple primary cancers[2]. Following this report, a large number of similar cases were recorded[3,4]. Since that time, there have been numerous other studies concerning double and multiple primary cancers, especially in the head and neck area. Most physicians working with head and neck cancer patients are well aware of the double primary problem. Many physicians have had the frustrating experience of seeing a patient cured of one head and neck cancer presenting later with another cancer in the same region, the lung, the esophagus or elsewhere. Due to the increase of long term survivors the development of second or even more malignancies has recently been recognized as a serious problem in cancer patients from diagnostic and therapeutic point of view. The criteria used for determining multiple primaries are those originally proposed by Warren and Gates[3] and recommended by Batsakis[5]. The criteria are, first, that the neoplasms must each be malignant, second, that each neoplasm must be geographically separate and distinct and, third, that the possibility that one of the cancers is a metastasis from the other must be excluded.

Case Report :

A 45 year old male was complaining of sore throat, painful deglutition and pain in the right ear for the last 6 months. On 29.4.88, he was found to have a fungating growth of the right tonsil with a enlarged right cervical lymph gland. Tissue was taken from the tonsillar growth for histopathological examination which revealed squamous cell carcinoma grade-I (Department of Pathology, Chittagong Medical College & Hospital, Sp. no. 103/C/80 dated 7.5.80). Following confirmation of the diagnosis as carcinoma of the right tonsil with metastatic right cervical lymph gland, he was treated by a course of radiotherapy (DXT)-right faciocervical field-with a tumor dose of 5000 rads in 5 weeks. After

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completion of radiation treatment of patient was regularly followed up and found to have no sign and symptom of recurrence and/ or metastases for 3 years. On 1.7.83, the patient got himself admitted in Sub divisional hospital, Feni (Reg. no 1024 dated 1.7.83) with features of acute intestinal obstruction. Laparotomy was done on the same day and it was found that the obstruction was due to a pedunculated growth in the terminal part of the ileum. Excision of the mass and end to end anastomosis was done. Tissue from the growth revealed leiomyosarcoma of the ileum, well differentiated (Chittagong Pathology Center, No. Histopath # AH-133/83 dated 10.7.83). The patient was treated by a course of radiotherapy (DXT) locally (anterior and posterior abdominal fields with a tumor dose of 2500 rads in 4 weeks) followed by systemic combination chemotherapy as per following schedule :

Inj. Cyclophosphamide (600 mg) I/V on day 1
Inj. Actinomycin-D (0.5 mg) I/V on day 1
Inj. Vincristine (1.5 mg) I/V on day 1

The patient received 6 cycles of above mentioned chemotherapies at 3 weekly intervals under strict haematological control. He was regularly followed up and found to be asymptomatic for 7 years. From March '91 the patient was complaining of pain of the right side of the chest and in the right arm for the previous 1 month. He was thoroughly examined and was found to have a firm, nontender and enlarged palpable right supraclavicular lymph node. Indirect laryngoscopical examination and ultrasonogram of the abdomen revealed no abnormal finding. His X-ray chest (P/A & lateral views) revealed fairly defined rounded opacity at the apical region of the right lung. Bronchoscopical examination was not possible due to lack of facilities at Chittagong. The enlarged right supraclavicular lymph node was excised and biopsied, which revealed metastatic squamous cell carcinoma (The Pathology, Chittagong S.P.no. F-20/91 dated 10.4.91). As no sign and symptom of recurrence and/or metastasis could be detected from previous two primary malignancies and clinical and radiological findings and to some extent histopathological findings of excised supraclavicular lymph node (as squamous cell carcinomas making up 35 to 50% of bronchogenic carcinomas[16]) are in favour of bronchogenic carcinoma, it was diagnosed as a case of Pancoast's tumor (right lung) with right supraclavicular lymph node metastases. The treatment was started by radiotherapy (anterior & posterior chest fields including the right supraclavicular area-tumor dose 3000 rads in 4 weeks) immediately after diagnosis. Following radiotherapy, the patient was symptomatically alright for two months. Then he again complained of right sided chest pain. Repeat X-ray chest (P/A & lateral views) revealed persistent rounded dense opacity in the upper lobe of right lung but no significant enhancement or diminution of the size of the density in the upper lobe of right lung was observed. Then he was treated by systemic combination chemotherapies as per following schedule:

Inj. Methotrexate (50 mg) I/V on day 1
Inj. Vincristine (1.5 mg) I/V on day 1
Inj. Cyclophosphamide (600 mg) I/V on day 1
Inj. Adriablastin (20 mg) I/V on day 1.

The patient received 6 cycles of above chemotherapies at 4 weekly intervals. Following chemotherapy he was asymptomatic for about a month. In the 1st week of March '92, the patient again attended the radiotherapy out patient department, CMCH with the complain of pain in the right side of the chest and right arm. At that time his X-ray chest also revealed persistence of previous lesion without any enhancement of size of the density. He was

treated again by radiotherapy (DXT) in the previous fields (anterior & posterior chest fields-2500 rads tumor dose for 3 weeks. Following radiotherapy, the symptoms of the patient subsided. Till his last follow-up in the last week of June '92, no sign and symptom of recurrence and/or metastases from any of the 3 primary malignancies could be detected by history, physical and clinical examinations and by necessary specific investigations except persistence of symptomless apical shadow of the right lung by roentgenographic examination.

It is to be mentioned here that we had some limitations in prescribing chemotherapeutic agents in this case due to nonavailability of drugs and financial inability of the patient and also due to lack of megavoltage radiotherapy machines at Chittagong Medical College Hospital. Hence, we could not follow the Internationally accepted schedules and doses of radiotherapy and chemotherapeutic agents. However, we achieved a very good result inspite of the above mentioned limitations, particularly in this case.

Discussion :

Persons who have been diagnosed with one cancer had 1.31 times the risk of developing another cancer according to data from the Connecticut Tumor Registry in the United States (U.S)[6]. The incidence for multiple tumors occuring in the same individual has been variable but has been found in as many as 37% of patients with carcinomas of the oral cavity[7]. Similar findings have been reported in patients with head and neck cancers[8,9,10]. Although tumors can involve separate organ systems, most seem to involve the same organ area. The greatest risk for developing a second primary tumor occurs within the initial 3 year period following therapy for the primary lesion[7]. Careful evaluation at the initial diagnosis, searching for other primary tumors, and frequent careful follow-up examinations for the first 3 to 5 years are mandatory, considering the well known propensity for second or additional primary tumors to occur. Vikram and associates, have estimated that almost one third of their patients with stage III or IV squamous cell carcinomas of the oral cavity, pharynx, larynx, and hypopharynx will have a second primary carcinoma by the fifth year after successful treatment of the index cancer[9,10]. It is pathogenetically significant that there exists a histologic and anatomic predilection for a second primary carcinoma in patients with cancer of the mucosae of the head and neck. The index and second primary cancers are almost exclusively squamous cell carcinomas. Particularly at risk for the association with a second primary cancer are patients with squamous cell carcinomas of the oral cavity and lips. Index sites of hypopharynx, larynx and oropharynx follow in order[1]. Patients with malignancies of the major and minor salivary glands do not share the risk[1]. There is little information concerning the incidence of second primary cancers in patients with cancer of the sinonasal tract, but a subjective impression is that it is low[13]. In patients with squamous cell carcinomas of the upper aerodigestive tracts the second primary cancer is almost always found in one of four sites : the same area, a contiguous proximal or distal mucosa, the lungs, or the esophagus[1]. Corroboration of the high incidence of bronchogenic carcinoma in patients with cancer of the head and neck is provided by Marks and Schechter[14], who used primary carcinoma of the lung as their index malignancy. While head and neck cancer patients certainly develop additional cancers in the upper aerodigestive tract, they develop cancers at other sites as well[15]. In this case report, the patient with an index squamous

cell carcinoma of the tonsil subsequently developed leiomyosarcoma of the ileum after 3 years and there after developed Pancoast's tumor (right lung) with right supraclavicular lymph node metastases with a histological variety of squamous cell carcinoma (as evident by right supraclavicular lymph node biopsy) after 11 years of development of index neoplasm (i.e in the tonsil). Our finding is quite different histopathologically in case of second primary malignancy (i.e. leiomyosarcoma), but histopathological similarity with the index neoplasm was observed in case of third primary malignancy (i.e. squamous cell carcinoma of the right lung). Thus, we like to conclude that in the same individual, the multiple primary malignancies in different organ systems may develop not only within 3-5 years of index neoplasm, but it may develop at any period of his/her life time. But we are unable to explain any acceptable causative factor for such occurence. From this case report study it is also noteworthy that head and neck cancer patients develop additional cancers not only in the upper aerodigestive tract but it may develop in the lower digestive tract also and this may be of different histopathological variety too.

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