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CONTENTS

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Journal article, two or three authors:

2. Kilpatrick RM, Aseron CA: Radioisotope detection of Meckel's diverticulum causing instestinal bleeding. Z. Kinderchis 13. 210-217, 1973.

(See page 25)

ASSESSMENT OF POST OPERATIVE ANALGESIA A COMPARATIVE STUDY OF PETHIDINE AND DICLOFENAC SODIUM

Kazi M. Iqbal[1], Gour K. Biswas[2], Swapan K. Mondol[3] and B. afzalunnessa[4].

Key Words:

Pain: Post-operative

Analgesic: Pethidine, Diclofenac

Summary:

Diclofenac Sodium is a non-steroidal anti-inflammatory agent with potent analgesic properties. It has been recently used as post operative analgesic by some workers and favourable comments have come through. As post operative analgesia has generally been found inadequate and various methods have been applied for it, diclofenac with certain advantages have been used in this study to evaluate its effect as a post-operative analgesic agent. Fortyfour adult patients of ASA I and II with average intelligence underwent the trial. Pain was assessed post-operatively on the basis of subjective response. Patients were divided into three groups. Group I received Pethidine post-operatively and was considered as control. Group II received diclofenac alone and Group III got a combination of diclofenac and Pethidine. The response was measured on Visuai Linear Analogue Scale. The results of Group I were compared with those of Group II and III separateiy and another comparison was made between Group II and Group III. Student's 't' was used for the comparisons. It was found that diclofenac used alone has the disadvantage of not causing sedation to the patients along with longer latency, but its quality of analgesia was comparable to pethidine, besides, it has longer duration. Combination with pethidine, diclofenac seemed to have overcome the above mentioned disadvantages to some extent and proved to be the best choice in the study.

1. Kazi M. Iqbal, Associate Professor,
2. Gour K. Biswas, Junior Consultant,
3. Swapan K. Mondol, GraduateStudent,
4. B. Afzalunnessa, Professor,
Department of Anaesthesiology, Institute of post Graduate Medicine and Research, Shahbag Avenue, Dhaka, Bangladesh.

Introduction:

Intensity of post-operative pain depends naturally on the type of surgery involved, the kind of incisional wound surgeons have to make for the surgery and also the attitude of the patients towards feeling of pain. It has been found that intensity of pain post-operatively reaches its peak after about six hours (Beecher, 1957). All sorts of treatment for the relief of post-operative pain have been tried and these include systemic

analgesics and local blocks. There is, however, no fool proof way by which one may have a perfect post operative pain relief. Methods mentioned above have their own merits and demerits and naturally scope of using them has been limited. There has been a long search for a non-narcotic potent analgesic which could compare well with conventional narcotic analgesics. Diclofenac Sodium is a non-steroidal anti-inflammatory drug (NSAID) with potent analgesic and antipyretic properties. It is chemically designated as Sodium (0 [(2,6, dichloro-phenyl)-amino]-phenyl)] acetate and is one of the most potent inhibitor of prostaglandin synthetase (Maier et al. 1979). Peak plasma concentrations are attained in 10-22 minutes after a dose of 75 mg. I.M. injection. 99.7% are protein bound and excreted mainly via kidney as metabolites (Maier and wilhelmi, 1982). It has been used as post-operative analgesic and the published reports suggest that it is an effective and potent agent, although not without any disadvantage. The Purpose of our study was to verify the statements and put diclofenac Sodium in its place as an analgesic in the post-operative management in our country.

Materials & Methods:

Fortyfour average intelligent patients with ASA I and II grading (table I) undergoing elective major abdominal surgeries were accepted for the trial. Written consents were obtained from them. Patients with history of peptic ulcer of hypersensitivity to any drug were excluded from the study. All patients received lorazepam 1-2 mg sublingually two hours before induction of G. A. Each patient was given a 100 mm V.L.A. Scale during pre-operative assessment and was explained that one extreme of the scale indicates no pain and the other meaning as much as pain as possible. A painful stimulus (pinching skin of forearm) with one cloth clip, was then given and the patient was asked to show the extent of the pain on the scale, which was noted. Patients under study were divided into three groups at random. Fourteen paitents in group I received pethidine Hcl I.M, 1.5 mg/kg B.W. with a maximum of 100 mg every 4-6 hourly as needed.

Twelve patients belonging to group II received diclofenac sodium in the deep gluteal region immediately after extubation, the dose being 75 mg In group III, eighteen patients received 75 mg diclofenae sodium in the deep gluteal region immediately after extubation alongwith 50 mg. pethidine Hcl. I.M. Any patient needing extra analgesic before the time as directed, was given in the form of pethidine and was excluded from the trial. Criteria for giving further analgesic was when patients VLA scale reading was over 50 mm. General anaesthesia was standardized by inducing patents with Sodium Thiopentone 5 mg/kg B.W,. Galamine 2·5 mg/kg B.W. followed by endotracheal intubation and maintenance was done by O_2/N_2O/Halothane. A supplement of pethidine I mg/kg B. W. was also given. Patients were assesed at 0 hour (When the patient was fully awake and communicable) and then every 3 hourly until 12 hours (0,1,2,3 and 4 assessment points). Assessments were made on VLA scale and the time of onset of analgesia after administration (latency) alongwith the duration of analgesia were recorded. Side effects if any were also noted.

Results :

All three groups were fairly matched as far as age, weight distribution and mean anaesthetic time were concerned (table I and II) Taking group I as control, group II and group III were compared with it in turn and later a comparison between group II and group III were also made. Student's 't' tests were used for these comparisons.

Table—I

Sex, age and weight distribution.

Group	Sex,	Mean Age ± SEM	Mean Wt. ± SEM
I	Male-8	37.9	47.9
n—14	Female-6	±2	±4
II	Male-7	35.5	49.5
n—12	Female-5	±2.73	± 1.6
III	Male-8	35.7	51.2
n—18	Female-10	± 2.19	± 1

Table—II

Mean anaesthetic time (in minutes) (SEM)

Group I	Group II	Group III
78.9	76.6	68.0
±5.72	±4.38	±4.24
not significant		

At assessent point I (after three hours), VLA scale measurement showed (table III) significant difference between group II and group I, pethidine being the better analgesic at this point. Highly significant differences between group I & group III and group II & group III showed that treatment with pethidine in combination with diclofenac had better results than other two. At assessment point 2 (after six hours), treatment group II and group III had better effects on the patients than treatment group I. Highly significant

Table—III

Mean readings of Visual Linear Analogue Scale (in mm.) (Pre OP and five assessment points) (SEM)

Assessment point	Group 1	Group 2	Group 3
Pre OP	30.3 ± 2.51	32.5 ±3.76	31.9 ± 2.05
0	78.9 ± 5.72	76.6 ± 4.38	68.0 ± 4
1	34.2 ± 2.70	48.3* ± 5.1	20.5++ ++ ± 1.9 **
2	55.7 ± 3.2	40.8** ± 3.4	26.1++ ++ ± 2
3	25.1 ± 2.8	41.66** ± 2.44	35,5* ±2.68
4	57.8 ± 4.46	72.5* ± 4	73.8* ±3.01

* 't' between Group I & II — * $p < 0.05$; ** $p < 0.01$

++ 't' between Group I & III — ++ $p < 0.01$

\+ 't' between Group II & III — + $p < 0.05$

differenees were found between group I II, group I & III and between group II & III. Although diclofenac alone had better effect than pethidine at this point, dielofenac and pethidine combination appeared to be the most effective. At assessment point 3 (after nine hours), group I was better than group II and the difference was highly significant but group I was only significantly better than group III. A fresh dose of Pethidine was, of course, administered to group I patients about this time,

At assessment point 4 (after twelve hours), treatment group I was found significantly better than group II and III (figure I).

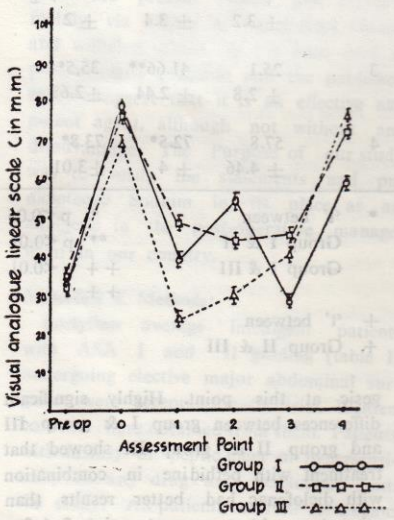

Figure 1 *Graphic representation of mean VLA reading alongwith SEM on various assessment points.*

Regarding onset of analgesia (table IV), difference of group II from group I was highly significant. Difference of group III from group I was also highly significant, and the same was the case with group II and III. This proved that pethidine had the shortest latency. As far as the duration was concerned (table V), group III

Table—IV

Time taken for onset of analgesia after administration of drug. mean (in minutes) (SEM)

Group I	Group II	Group III
11	30.8**	17.4** + +
± 1.14	± 2 85	± I.32

\+ 't' between Group I & II * p <0.01
\+ + p <0.01
\+ 't' between Group I & III + +
\+ 't' between Group II & III

Table—V

Duration of analgesia mean (in minutes) (SEM)

Group I	Group II	Group III
229.2	643**	752** + +
±13.2	±25.3	±42.4

* 't' between Group I & II + p <0.05
\+ Group I & III p <0.01
\+ 't' between Group II & III

seemed to have the longest duration and had significant difference from group II, and highly significant difference from group I. As regards to side effects (table VI), eight patients out of fourteen in group I had complaints of nausea, two patients in the same group actually vomitted. But all of them were otherwise well sedated. In group II, none of the patients showed any usual side effects bnt ten of them had fair amount of apprehension. In group III, two out of eighteen patients had complaints of nausea, twelve of them were well sedated and two showed some apprehension. Lastly, (table VII) group I needed a mean total amount of 170 mg. of pethiidine in twelve hours time, group II needed 75 mg. of diclofenac and group III needed 75 mg. of diclofenac and only 50 mg. of pethidine.

Table—VI

Side effects observed in various groups.

Effects	Group I	Group II	Group III	Total
Nausea	8 (57%)	0	2 (11%)	10
Vomitting	2 (14.28%)	0	0	2
Sweating	0	0	0	0
Dizziness	0	0	0	0
Sedation	14 (100%)	0	12 (66%)	26
Apprehension	0	10 (83%)	2 (11%)	12

Table—VII

Amount of analgesic needed in twelve hours (mean) (in mgm)

	Group I	Group II	Group II
Pethidine	170	—	50
Diclofenac	—	75	75

Discussion :

Narcotics have long been used as post-operative analgesic agents which have side effects like nausea, vomitting, respiratory depression etc (Goodman-Gillman 1980). Pentazocine which is a non-narcotic drug has been tried (Rifat 1972), but its dysphoria limits its use. Post operative pain with all its severity, specially when major abdominal surgeries are performed demands a quick but long acting potent analgesic which has minimal side effects. Assessment of intensity of pain has always been a problem as it is a subjective matter and naturally very difficult to define in precise terms. As descriptive scale has been thought of having limited sensitivity, VLA scale (Revill et al 1976) for assesing pain has recently been used rather widely. In our study, we have used VLA scale as a tool for assessing post operative analgesia and it has been

found that patients acceptibility to this procedure was favourable,

Results showed that because of the lack of sedation and longer latent period, diclofenac if used alone may fall short of patients expectations, whereas both pethidine and diclofenac pethidine combination are devoid of these shortcomings, Latency of diclofenac is significantlcy ($p<0.01$) longer than pethidine. During this period the patient may suffer from moderate to severe pain and restlessness. Using diclofenac alone for pain relief where the latent period is longer and no sedation is to be expected, a good number of patients may become very apprehensive inneed. Using diclofenac pethidine combination we have found definite advantage over other methods. It not only achieved some amount of sedation but also there was some shortening of latent period. As a whole, patients had relatively smoother post-operative period.

In his comparative study of pentazocine and diclofenac, Bossi did not find any signifieant difference in potency, latency and duration (Bossi et al 1984). In another comparative study involving diclofenac, pethidine and nalbuphine, the author found diclofenac as a drug with longest latency and duration. He also conclude that diclofenac was the best tolerated agent in his study (Carlos 1982). Our study supports the view that diclofenac if used alone has an acceptable efficacy in relieving post-operative pain which is definitely comparable to that of pethidine, but longer latency and lack of sedation may act as a limiting factor for its use. But it seems to be a very useful agent where narcotic analgesic is to be avoided Its lack of respiratory depression effect also favours its use in respiratory handicapped patients. Although diclofenac has proved to be an effective agent in the management of post operative pain, diclofenac and pethidine combinatian appears to have better performance. The combination although involves several injection sites, it has to be given only twice in twentyfour hours time and the quality of analgesia seemed definitely superior to other conventional methods.

Acknowledgement :

The authors gratefully acknowledge the pharmaceutical division of CIBA-GEIGY (Bangladesh) Limited for supplying Voltaren (Diclofenac Sodium) to our department for running of the trial.

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IN-VIVO ASSESSMENT OF THE SENSITIVITY OF PLASMODIUM FALCIPARUM TO SINGLE DOSE PYREMETHAMINE-SULFADOXINE IN BANGLADESH WHERE CHLORO QUINE RESISTANT FALCIPARUM MALARIA HAS BEEN DETECTED

Md. Abul Faiz[1], Mohiuddin Ahmed[2]

Key Words :

Falciparum Malaria, Single dose Pyremethamine—Sulfadoxine.

Summary :

The sensitivity of Plasmodium falciparum to single dose Pyremethamine-sulfadoxine was tested in-vivo in South Eastern bordering area of Bangladesh, where Chloroquine resistant falciparum malaria have been demonstrated by both in-vivo and in-vitro tests. Single dose pyremethamine-sulfadoxine cured 85.5% of patients. The possibility of using the drug in treating chloroquine resistant falciparum malaria in Bangladesh is discussed.

1. Consultant-Physician District Sadar Hospital Cox's Bazar, Bangladesh

2. Deputy Director Malaria and Parasitic Disease Control Directorate General of Health Services 20, Dhanmandi, Road No. 4 Dhaka-5 Bangladesh.

Introduction

Malaria is endemic in the eastern border areas of Bangladesh. Falciparum malaria resistant to chloroquine has been demonstrated by both in-vivo and in-vitro tests in this area (Ahmed et al., 1979: Rosenberg et. al. 1976: Faiz M.A. 1982). Quinine is an established drug for the resistant strain. The combination of pyremethamine and sulfadoxine has been used in South East Asia in the treatment of Chloroquine resistant strain of Plasmodium (Chin et al,, 1973

Doberstyne et. al, 1979). This study was carried out to assess the efficacy of Pyremethamine-sulfadoxine in the treatment of uncomplicated falciparum at Cox's Bazar, Bangladesh.

Materials and Methods

The study was performed in Cox's Bazar District Hospital, Bangladesh from November 1983 to December, 1985, The patients to be studied were selected from adult febrile cases attendiug out patient Department of the Hospital with parasite count of Plasmodium falciparum more than 500/cmm of blood. Patients who were seriously ill or who had complications (coma, jaundice or severe anaemia) were not included in the study. The patients who have taken antimalarials within the last 15 days were excluded. Quantitative urinary chloroquine estimation was done by Dill Glazko reagent during the selection of cases to confirm that urine is free from chloroquine. The patients have to agree to be followed up during the study period either in the hospital or in the field and be willing to sign concent after being informed of the nature of the study.

Patients were given single dose of pyremethamine (75 mg)—sulfadoxin (1500 mg), Direct quantitative parasite count was performed before therapy and subsequently daily for 7 days. Parasite clearance time was determined for each patient. Patients in whom asexual parasitaemia was cleared by treatment were considered to be cured.

Results

Sixty two falciparum cases were studied to see the efficacy of single dose pyremethamine-sulfadoxine combination (Table 1). Average pre-treatment parasite count per/cmm of blood was 10,102. 53 out of 62 patients (85.5%) treated with single dose pyremethemine-sulfadoxine are sensitive to it and c'earance of the parasite was noted in day 3.8 The patients in whom parasitaemia was not cleared with pyremethemine-sulfadoxine on day 7 (8th day of therapy) were treated with oral quinine for seven days.

Table—I

The efficacy of Pyremethamine and snlfadoxine combination in falciparum malaria.

Total No. of cases treated.	62
Therapeutic dose given	75 mg. P. 1500 mgs. S.
Mean pretreatment parasite count/cmm of blood.	10.102
Percentage parasitaemia cleared in 7 days.	85.5
Mean clearance period in days.	3.8

(P. Pyremethamine, S. Sulfadoxine)

Discussion

Pyremethamine-sulfdoxine cured 85.5% of patients with an average parasite count of 10, 102/cmm of blood when administered in an adult dose of 3 tablets (Pyremethamine 75 mg. sulfadoxine 1500 mg). Similar findings were noted by Doberstyne et al (1977). They found 89% cure rate with single dose pyremathemine-sulfadoxine. Kilimati et al found 94.2% cure rate by similar therapy in Tanzania (1986). Although the clinical response is slow the single dose treatment is safe, convenient and easy to administer (Tawil, N.A. 1978) It is economic also. In severe or complicated cases of falciparum malaria and in

cases exhibiting high levels of parasiteamia quinine should be used (Doberstyne et al 1979). In areas of the world where chloroquine resistant falciparum malaria is a significant problem, long acting sulfonamide combination has a definite place as an alternative regimen to quinine against the strain. Considering the emergance of pyremethamine-sulfadoxine resistant falciparum malaria, its use should be restricted to uncomplicated falciparum malaria.

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IMPACT OF POPULATION GROWTH ON DEMAND FOR AND COST OF MEDICAL AND HEALTH CARE FACILITIES IN BANGLADESH

Kashem Shaikh

Key Words :

Population Growth: Medical & Health Care.

Summary :

The impact of population growth on health care facilities in Bangladesh and the demand for them is discussed. The data wer collected from the ICDDR,B's Matlab DSS area and other published reports.

In this paper, Bangladesh's population has been projected from 1975 to 2000 with the different assumptions of population growth. Considering constant fertility and constant mortality at 1975 levels, the projected population for 2000 will be 163.1 million. However, the projected population is 151·4 million, declining fertility and declining mortality to the level TFR of 4.0 and expectation of life at birth 57.5 years to be reached by 2000 years. With the assumption of constant fertility and declining mortality at the level TFR of 6.0 and expectation of life at birth 57.5 years by the year 2000, the estimated population of Bangladesh will be 173.0 million. The cost and demand for the medical and health care facilities, number of doctors, nurses and hospital beds that will be needed for the growing population has also been estimated.

International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR, B), GPO Box 128, Dhaka, Bangladesh.

Introduction :

The WHO-UNICEF conference held in Alma Ata, California in September, 1978 adopted a resolution inviting governments to formulate national policies to meet basic population needs in such a way that every one would have access to primary health services by the year 2000. It was also resolved that in all countries mortality should be reduced, so that, by 2000, life expectancy at birth should be at least 60 years and infant mortality should be 50 per thousand live births.

In Bangladesh, as in other high mortality countries, much of the health infrastructure has been concentrated until recently in urban centres. Health delivery services largely have been hospital-based, and responsibility for disease treatment largely has been with doctors trained in Western Medicine (alopaths qualified in Medical College). For much of the rural population, health needs have been met by untrained healers (quacks or untrained Ayurvedic and Unani medicine practitioners or spiritual healers). There also are a few rural hospitals, run largely by voluntary agencies or Christian missionaries. In 1972, the Bangladesh Government, with the assistance of WHO, adopted a

comprehensive health development programme which has been implemented very slowly for a variety of reasons (political upheavals, economic constraints). The programme's basic strategy vis a vis general health service delivery (apart from specific diseas control programmes, such as, malaria leprosy and tuberculosis) is to establish Upazilla (rural districts) Health Complexes one in each of the 364 rural upazilla each with 50 hospital beds and outpatient services. These facilities are to have 9 medical doctors, one specifically assigned to Family Planning (FP) and Maternal Child Health Care (MCH). Each upazilla Health Complex is responsible for running 3-4 Union Health Centres. These centres located in sub-districts, are to be staffed by paramedics and to serve as referral points to the upazilla Health Complex.

Materials and Methods :

Population Projections:

In order to estimate the future cost and demand for the medical and health care facilities, the nation's population has been projected from 1975 to 2000 by age groups, under the following population growth rate assumtions.

i. Constant fertility and constant mortality at the 1975 level, total fertility rate (TFR) of 6.0, and a life expectancy at birth of 47 0.

ii. Declining fertility and declining mortality to a level total fertility rate (TFR) of 4.0 and a life expectancy at birth of 57.5.

iii. Constant fertility and declining mortality at the level total fertility rate (TFR) of 6.0. and a life expectancy at birth of 57.5.

Assumptions of Future Fertility Trends:

The assumption that fertility will decline is based on the following. While from 1969 through 1974 the nation's family planning programme virtually failed to stimulate a population decline (due to a series of events including political disturbance, an independence war and post-independence programme uncertainty), since 1975 there has been a trend toward declining fertility. Thus, while the nation's overall fertility rate was estimated at 7.67 Per 1,000 in 1965, in 1975-76 it was estimated at 6.34 (Sawan Hong, 1980). These estimates are similar to those made for the ICDDR, B's Matlab *Demographic Surveillance System (DSS), where the total fertility rate was estimated at 6.7 for 1956-67, and at 6.2 for 1976 (Mosley, et. al 1968 and Ruzicka et. al., 1978). To hasten fertility reduction the Bangladesh Government adopted a comprehensive population policy in June 1976, giving high priority to population control programmes. The specific goal was to reduce the 1975 TER of 6.0 to a replacement level of about 2.6 and to maintain an average annual population growth rate of 1.5 percent for the

*Since 1963, the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR, B) has been conducting a health oriented research programme and providing limited heath services at Matlab Upazilla, Comilla District, Bangladesh. The DSS is one of this field programme's components. Since 1966, it has maintained a continuous registration of births, deaths and migrations in addition to occasional censuses. In 1978, total population was estimated at 174,860.

period 1976-2000 (Report of Mission on Needs Assessment for population Assistance, I978). The United Nations medium variant projections implied a reduction in TER from about 7.0 (The value estimated by the United Nations for 1975-1980) to 4.7 in 1995-2000.

Since late 1977, the ICDDR, B has conducted a Maternal/Child Health Care and Family planning intervention programme (MCH-FP) in the Matlab DSS area. Under this programme, the area's total fertility rate declined to 4.5 in 1978 from 6.7 in 1977. 1798 and 1982, the total fertility rate in the MCH-FP area fluctuated from 4.5 to 5.0. In the adjacent comparison area during this same period the total fertility rate ranged from 5.5 to 6.3 (Samad et. al; 1977, Chowdhury, M. K. et. al., 1981 and Shaikh, K. et. al. 1984). Hence, the U. N. assumption about the declining fertility level seems resonable.

Assumptions of Future Mortality Trend

In the second and third variant of our projection, the mortality component has been assumed to be declining. This assumption is based on the observation that until the 1950s, the CDR declined slowly to below 40 per 1,000. However, in the 1960s the CDR showed a rapid decline. The census data indicate a CDR of 29.7 in 1961 and a further decline to 19.4 in 1974. The Bangladesh fertility survey data showed a CDR of 19.0 in 1975-1976 (Sawon Hong, 1980). A remarkable mortality decline was seen in 1977, with a CDR of 13.6 (Samad et. al., 1979). Infant Mortality also was found to be declining. In 1975-1976, the Infant Mortality Rate (IMR) was 150 per 1,000 (Sawon Hong 1980). According to sub-national data sources, the IMR for 1977 was 113.7 (Samad, et. al., 1979) and even as low as 104.4 (Alam et. al., 1980).

The health care system of Bangladesh inherited traditionally has been curative-oriented and urban-based. After independence, the Bangladesh Government, having recognised the health care facilities inadequacies and inequitable urban/rural distribution, initiated a number of programmes during the First Five-Year and the Two-Year Plans. These aimed to establish a network of infrastructural facilities, in order to extend health care to rural areas; and to develop comprehensive health services, including preventive and promotive health care. "Health for all by the year 2000" recently has been accepted by the Government as a national objective.

Population Dynamics Group

Demographic Projections Programme

The population projections programme, prepared by the population Dynamics Group (PDG) in 1976 at the University of Illinois, has been used in these population projections, as it is very helpful for such projections.

Results

Population estimates for 1975 (base year) and 2000, under different assumptions are in Table I.

Financial Outlay and the Need for Doctors, Nurses and Hospital Beds:

The number of doctors. nurses and hospital beds necessary by the year 2000, with the coverage as of the base year 1975, has been estimated using the three assumptions from the population projections (Table 2). The General programme of (PDG) also has been used, to check the calculated cost and number of hospital beds.

Table—I

Bangladesh Population Estimates (in millions) by Age for 1975 and 2000, Under Different Fertility and Mortality Assumptions.

Age Groups	1975 (base year) Population	%	2000 Assumption I Populatinn	%	Assumption II Population	%	Assuption III Population	%
Under 15	35.5	44.0	72.8	44.6	59.6	39.4	78.9	45.6
15 44	34.4	42.7	69.7	42.7	69.6	46.0	71.9	41.6
45 & Over	10.7	13.3	20.6	12.6	22.2	14.6	22.2	12.8
Total	80.6	100	163.1	100	151.4	100	173.0	100

Table—II

Estimated Number of Doctors, Nurses and Hospital beds Needed by the Year 2000 to Maintain Health Coverage in Bangladesh at 1975 A (base year) Levels, Under Different fertility and Mortality Assumptions.

	(a) 1975 (base year)	(b) 2000 Assumption I	Assumption II	Assumption III	Difference (b)—(a) Assumption I	Assumption II	Assumption III
Doctors	6,223	12,593	11,689	13,357	6,370	5,466	7,134
Nurses	1,294	2,619	2,431	2,777	1,325	1,137	1,483
Hospital beds	15,452	31,269	29,026	33,167	15,817	13,574	17,715

As noted in Table II ("Difference" column) large numbers of doctors, nurses and hospital beds will be required by the year 2000, to meet the level of health facilities available in 1975. However under assumptions I and II (compared to assumption I) an additional 904 and 1,668 doctors, 188 and 348 nurses, 2,243 and 4,141 hospital beds, respectively, will be needed.

With a capacity equal to that of 1975, only Bangladesh is able to produce annully 1,078 doctory and 1,425 nurses (Bangladesh Health profile, 1977). To achieve the required level of doctors and nurses, even under the more moderatd assumption II, it

would take about 29 years to obtain the additional number of doctors and 53 years for nurses. However. by that time, many doctors and nurses might have retired. Offsetting this is the fact that the annual admission to schools of medical students has gone from 1,078 in 1975 to 1,672 in 1978 and will be increased further. A target for training 8.804 nurses during the 1980-1985 period also has been set up (Bangladesh Planning Commission. 1980, p. XVII-22).

Under assumption II, (declining fertility and mortality) 13,574 additional hospital beds will be needeed by the end of this century. During the plan period 1980-1985, the total number af hospital beds is expected to be raised from 15, 485 to 26,257 (Bangladesh Planning Comission, 1980, P. XVII-17). This number is at least 2.800 beds short of the projected need under assumption II and 7,000 beds short under assumption III.

An Asian country that has achieved a rapid motality decline in a comparatively short period is Sri Lanka, which has a well-developed health services network (ESCAP, 1976). Should Bangladesh aim to achieve similar health services coverage for her population, the needs by the year 2000 would be an additional 31.8 thousand doctors, 75.6 thousand nurses and 463.7 thousand hospital beds. Oviously, these target are beyond the country's current capacity.

The estimated costs of the number of additional hospital beds needed by 2000 to maintain health coverage at Bangladesh's 1975 level and Sri Lanka's 1972 level are shown in Table 4, under the alternative projections. In its 1980—1985 development project (Bangladesh Planning Commission, 1980, p. XVII-12) the Bangladesh Government allocated a total of $ 396.7 million for health services development. As the cost of construction and other services escalated from 1975—1980, the Table 4 estimates undoubtedly are low. Moreover, other health development cost, such as construction of new medical and nurses training colleges, Thana Health Complexes and Union Health Centres, Training of Paramedics, etc., will place great strain on the health development budget. Unfortunately, the Planning Commission's report does not provide further details as to how funds are to be allocated to specific projects.

Table—III

Estimated Number of Doctors, Nurses and Hospital beds Needed by Bangladesh in 2000, to Achieve Health Coverage at Sri Lanka's 1972 Level, Under Different Fertility and Mortality Assumptions.

(a) 1975	(b) 2000			Difference (b)—(a)		
(base year)	Assumption I	Assumption II	Assumption III	Assumption I	Assumption II	Assumption III
Doctors 6,223	40,928	37,992	43,413	34,705	31,769	37,190
Nurses 1,294	82,834	76,892	87,862	81,540	75,598	86,568
Hospital beds 15,452	516,139	479,114	547,468	500,687	463,662	532,016

Table—IV

Estimated cost of Additional Hospital beds needed by 2000 to Maintain the Health Coverage level of Bangladesh in 1975 and Sri Lanka in 1972, Under Different Fertility and Mortality Assumptions.

Assumption	(a) Bangladesh coverage (1975)	(b) Sri Lanka coverage (1972)	Difference (b)—(a)
I	$ 27.4 million	$ 867.9 million	$ 840.5 million
II	$ 23.5 million	$ 803.7 million	$ 780.2 million
III	$ 30.7 million	$ 922.2 million	$ 891.5 million

Note: Cost per hospital bed Taka 0.26 million as in base year, 1975 (Bangladesh Health Profile, 1977).
1 U.S. Dollar = Taka 15.00

Discussion:

Given the above, it is almost impossible for a poor country such as Bangladesh to find adequate resources to meet the entire nation's comprehensive health care needs. Resource shortages have restricted the health care coverage to only about 25 percent of the population, and severe drug shortages have adversely affected the quality of service.

The following targets have been adopted for providing minimum health care to all:

1. To bridge the rural-urban gap, and to generally increase quality and coverage of the health care services;
ii. To effectively control the major communicable disease; and to expand preventive and promotive measures, with a view toward establishing a comprehensive health care system;
iii. To provide improved health and family planning services in a package to families with a view toward increasing overall well-being, and develop and integrate indigenous and homeopathic medicine systems into the health care service system.
iv. To train more voluntary health workers to operate within their own communities;
v. To impart basic health education to individuals and communities, in order to improve individual and community health;
vi. To train boys or girls who have matriculated, to be part of a new cadre of field-level health personal called "Palli Chikitshok" (village doctor), one for each village.

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RETROSPECTIVE STUDY OF BENIGN BILIARY TRACT DISEASE AND EVALUATION OF ROLE OF PER-OPERATIVE CHOLANGIOGRAM

A.K.M. Abdul Ghani[1], B.J. Wilken[2]

Key-Words:

Benign Biliary tract disease; Cholecystectomy; Per-operative Cholangiogram.

Summary:

A retrospective study was done for 84 cases of benign biliary tract disease dealt in a District General Hospital. All patients underwent Cholecystectomy for Cholelithiasis. Per-operative Cholangiogram was performed routinely in each case. This revealed Choledocholithiasis in 10 patients (12%). However there were 2 false positive (2.4%) results due to poor technique of Cholangiogram. Of 10 cases of Choledocholithiasis clinical evidence of stone in common bile duct was present in only 3 cases and pre-operative investigation revealed stones in another 2 cases. Thus remaining unsuspected 5 cases (6%) of Choledocholithiasis were diagnosed by per-operative Cholangiogram. This study prove the necessity and importance of per-operative Cholangiogram

1. Consultant General. Surgeon, Hera General. Hospital, Makkah, Saudi Arabia. Formerly Registrar to Mr. B.J. Wilken.

2. Consultant General, Surgeon, Scunthorpe General, Hospital, South Humberside, England, Correspondence to Dr. A.K.M. Abdul Ghani.

Introduction :

Cholecystectomy for benign biliary tract disease is a common operation in any General hospital. It becomes evident from a report by one author (A. A. Gunn) that there has been an increase of 130% in the rate of this operation in West Lothian area in Edinburg over the period of last 15 years. Per-operative Cholangiogram (O T.C) which was introduced by Mirizzi in 1932 (Mirizzi 1937) is now regarded as a standard routine procedure to be undertaken during Cholecystectomy to exclude the presence of stones in the bile ducts and for a number of other reasons. Any surgeon can master the procedure after practice for some time. However this needs special operating table and X-Ray facility. Only disadvantages are that whole operation takes 10-15 minutes longer than usual and the procedure poses a radiation hazard if adequate precautions are not observed (Linos et al 1980). This paper reports a personal series of cases in which routine operative Cholangiogram was performed and reveals the necessity of such diagnostic procedure not to confirm pre-operative diagnosis of choledocholithiasis but also to diagnose unsuspected cases of stones

which may be present in common duct in the range of 6-10% of cases (Farha & Pearson 1976.) These stones if not removed can lead to potentially serious complications. Spontaneous passage is not always predictable.

Materials and Methods:

84 consecutive operations for benign biliary tract disease over a period of 2 years were reviewed. All patients had Cholecystectomy by standard routine procedure. Per-operative Cholangiogram (O. T. C.) was performed in all cases 12 patients underwent exploration of the common bile duct on basis of O. T. C. findings. However 2 explorations proved to be negative due to misinterpretation of X-Rays. Overall pre-operative diagnosis of gall bladder disease was made by oral cholecystogram, intravenous Cholangiogram (I V. C.) and ultrasound scan. I. V. C. was done only when oral cholecystogram failed to show gall bladder shadow and ultra sound seen when radiological findings were inconclusive. 3 jaundiced patients had percuteneus transhepatic cholangiogram (P. T. C.) without any complications. Operative procedure was as follows:

Laparatomy was done by upper midline incision except in 2 where right subcostal incision had to be made because of gross obesity and wide intercostal angle. After satisfactory exposure and packing of gall bladder area; triangle of Calot, an area bounded by cystic duct, Common hepatic duct and inferior surface of liver (Wood 1975), was dissected out carefully by combined sharp and blunt dissections keeping always in mind possibility of presence of anatomical abnormality of the structures. Following clear dissection and identification cystic artery was doubly ligated with 4/0 silk and divided distal to ligations on gall bladder side. Cystic duct was clamped close to Hartman's pouch after careful palpation of the duct to exclude stone which, if would have been pushed back into gall bladder.

Duct lumen was opened laterally by a long sharp scissor as a preparation for O. T. C and gently probed for easy insertion of cather for injection of dye to the biliary tract. At this stage a bile swab taken for culture and sensitivity. A fine Stoke-On-Trent catheter was used for Cholangiogram. This was first filled with normal saline so that there was no air bubble in its lumen. Catheter tip was then inserted through the side hole of cystic duct for about 2-3 cms so that the tip is just in the C. B. D. Normal Saline was flushed continuously through catheter during insertion to prevent air bubbles going into its lumen. This was then temporarily tied with the cystic duct using 3/0 silk so that the catheter remained in place and there was no leakage of dye around it during injection. Dye used was 45% Hypaque. In our series gall bladder was removed before X-Ray films were taken. Altogether 3 films were taken, first film after injection of 4 mls of dye, second one after 7 mls and 3rd one after 9 mls of dye. All packs and instruments were removed before X-Rays were taken. Catheter was removed from cystic duct in cases where there was no indication of Choledocholithiasis while X-Ray films being developed. However this was left in-situ where there was possibility of exploration until X-Ray films were seen so

that this could again be used for injection of dye for completion Cholangiogram to make sure that no stone had been left behind in biliary tract.

Haemostasis from gall bladder bed was secured by stitch and surgical compression. Cystic duct was ligated doubly using 2/0 chromic catgut. In every case subhepatic area was drained by a Radivac drain. Exploration of C. B. D was performed through a small incision in supraduodenal part. Stones were extracted by saline irrigation through a soft tube directed both upwards and downwards. No rigid instruments were used at all. Every care was taken not to manipulate sphincter area unnecessarily. Choledochotomy incision was closed primarily using 4/0 chromic catgut in a continous single layer. Completion Cholangiogram was taken through the catheter already inserted into cystic duct. In 3 cases choledochoscope was used for direct inspection for residual stone without any difficulty instead of completion Cholangiogram. Choledocho-duodenostomy had to be done in 2 cases because of gross anatomical abnormality of C. B. D. and presence of impacted stone in the lower part. Finally abdomen was closed in 2 layers using '0' or '1' prolene for peritoneum and linea alba and 3/0' prolene for skin. Pre-operatively every patient had prophylactic antibiotics either Cefotaxime 1 gm or Lincomycin 600 mgm and Cephradine 500 mgm intramuscularly once with premedication and 6 hly 2 doses only in immediate post-operative period However one patient was given 7 days course of Cefotaxime in the dose of 1 gm 8 hourly intramuscularly for right subphrenic collection due to leakage.

Results :

Age range of 84 patients reviewed was 22 to 85 years with a mean of 49. Majority were female ratio being 3 : 1. Age range of patients who underwent exploration of C. B. D. was 29 to 85 years with a mean of 52. Female and male ratio was also 3 : 1.

Of all patients 46 (55%) cases were diagnosed in in out-patient clinic where they presented with chronic indigestion or upper abdominal pain mainly in right side. Remaining 3 cases (45%) were admitted as acute abdomen, 28 (33%) being acute cholecystitis and 10 (12%) acute pancreatitis. These patients were treated conservatively and acute episodes resolved without any complications. None of the patients needed emergency laparotomy. All cases were put on waiting list for Cholecystectomy. During the waiting period (up to 10 months) 12 were readmitted as acute abdomen, 9 being acute Cholecystitis and 3 acute pancreatitis.

Of 84 patients operated for Cholecystectomy 5 (6%) had wound infections. These patients stayed in hospital for a period ranging from 10 to 20 days. Table 1 & 2 show details of general information & hospital stay respectively. Uncomplicated cases were discharged home on 7th postoperative day after stitches had been removed. Of all cases 2 died in early post operative period, one of pulmonary embolism and the other of acute myocardial infarction. Both were grossly obese and potentialiy surgical risk cases. Amount of Radivac drain varied from 25 to 260 mls. Table 3 shows details of drainage.

Operative Cholangiogram revealed negative shadows in biliary tree consistant with stones in 12 cases of which only 10

Table—I

General information

Total patients — 84

Sex distribution

Male — 28
Female — 56
Ratio — 1 : 3

Age

Range — 22 to 85 years
Mean (Cholecystectomy) — 49 years
Mean (Exploration of C. B. D.) — 52 years

Presentation

Surgical O. P. D. :
Chronic dyspepsia — 46 (55%)
Emergency admission :
Acute abdomen — 38 (45%)
Acute Cholecptitis — 28 (33%)
Acute Pancreatitis — 10 (12%)

Diagnostic methods :

1. Oral C. C. G.
2. Intravenous Cholangiogram (I. V. C)
3. Ultrasound scan
4. Percuteneous transhepatic Cholangiogram (P. T. C.)
5. Per-operative Cholangiogram (O. T. C.)

proved to be right on exploration of C. B. D. Air bubble was the cause of apparent stone shadows in biliary tree in two false positive cases. Of 10 cases of choledocholithiasis only 5 were known preoperatively. Remaining five (5) cases of choledocholithiasis perhaps would have been missed without O. T. C. Choledochotomy was closed primarily in 10 patients and remaining 2 had Choledocho-duodenostomy. There was no operative complication of O. T. C. However 1 case of Choledochotomy had postoperative complication suggestive of right subphrenic collection. This patient recovered well on medical treatment. Table 4 shows details

Table—IV

Complications

Morbidity:

Wound infection 5 (6%)
Right subphrenic collection 1
Mortality 2 1 Pulmonary embolism
1 Acute myocardial infarction

Per-operative Cholangiogram (O. T. C.)

False positive 2 False negative—None

Table—II *Hospital stay*

Name of operations	No.	Mean total stay	Range
Cholecystectomy	84	10.2 days	7-20 days
Duct exploration	12	12.2 days	7-20 days
Primary closure	10	11 days	7-20 days

Table—3 *Amount of Drainage*

Drain (Radivac)	No.	Mean total volume	Range
Cholecystectomy	84	55 mls	25 to 260 mls
Primary closure	10	175 mls	75 to 260 mls
Choledochoduodenostomy	2	135 mls	90 to 220 mls

of postoperative complications. All patients were reviewed in the clinic for a period of 6 weeks to 6 months. No late complications were reported.

Discussion :

Gall stone disease is very common in middle aged people particularly women affecting approximately 10% of adult population (Roger W Motson & Lawrence, W Way). Normally stone is formed in gall bladder. This may later migrate to biliary tree causing various complications. Some 10-12% of people coming for cholecystectomy may also have Choledocholithiasis (Hand B. H). Thus diagnosis of latter is essential. Oral cholecystogram is hardly of any value to diagnose presence of stone in C. B. D. Intravenous cholangiogram may sometimes help. Preoperatively Choledocholithiasis may be diagnosed by ultrasound scan, percuteneous transhepatic cholangiogram (P.T.C.) in jaundiced patients and Endoscopic Retrograde Cholangiopancreatography (E. R. C. P). However these need necessary expertise and facilities. P. T. C and E. R. C. P are not always free from complication. Another but simpler way to detect or exclude stone in biliary tree is by doing O. T. C. This can avoid unnecessary duct exploration in about 40% of cases (B. H. Hand). Duct exploration may be associated with higher morbidity and mortality than cholecystectomy alone (Havard 1960). It is higher still if reexploration is required. O. T. C helps not only to avoid this but also to pick up unsuspected cases of Choledocholithiasis. In addition this provides information about anatomical abnormality of biliary tract. Surgeon gets idea about the number and location of stones the knowledge of which is of great value before surgical exploration. False positive results (2.4%) in our series were due to poor technique and are not more than what have been described by other authors (B. H. Hand). Post-operative deaths in 2 patients were not directly due to surgical complications and are comparable with death rates of many large series (C. K. Mc Sherry).

Per-operative Cholangiogram is a very useful technique to exclude presence of gall stones in biliary tree and to avoid unnecessary exploration of C. B. D. This can be done safely and satisfactorily by experienced general surgeon. This valuable investigation is advisable routinely during Cholecystectomy.

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PRIMARY CLOSURE OF COMMON BILE DUCT

A. K. M. Abdul Ghani[1], B. J. Wilken[2]

Key-Words:

Gall stone disease; Cholecystectomy; Exploration Common Bile Duct; Primary closure of Common Bile Duct (C.B.D.)

Summary:

A retrospective study was done for 84 cases of Gall stone disease. All of them had Cholecystectomy. Exploration of C.B.D. was performed in 12 cases of which two were negative. Duct was closed primarily in 10 patients and remaining two had Choledocho-duodenostomy. Only one of the ten patients had clinical evidence of right subphrenic collection. Other patients recovered very well. No late complication was reported. Thus primary closure appears safe and effective. Routine use of T-tube drain of C.B.D. following exploration is not always necessary.

1. Consultant General Surgeon, Hera General Hospital, Makkah, Saudi Arabia, Formerly Registrar to Mr, B, J, Wilken,
2. Consultant General Surgeon, Scunthorpe General Hospital, South Humberside, England,
Correspondence to Dr. A.K.M. Abdul Ghani.

Introduction:

T-tube drainage of C. B. D. following its exploration is still a routine procedure practised by majority of surgeons. Idea behind this is that it prevents leakage of bile into peritoneal cavity during the critical period of first few days when intrabiliary pressure is usually high due to oedema and spasm in terminal part of C.B.D. from manipulation of stone. Another distinct advantage is this permits postoperative Cholangiography and helps formation of a tract through which an attempt can be made to extract residual stone, if any. However T-tube drainge is not without its risks. Postoperative stay in hospital may be prolonged and nursing care may be difficult because of the tube. T-tube itself may act as a route of infection to peritoneal cavity. Big tube may result in stricture formation of bile duct.

Edwards and Harrington (1953), Rienhoff (1960) and Wilken (1975) have claimed that duct can be safely closed in appro-

priate cases and that a routine T-tube drain is unnecessary.

Materials and Methods :

84 Operations of Cholecystectomy carried out over a period of 2 years for benign, biliary tract disease were reviewed. Of these exploration of common bile duct was done in 12 patients for extraction of stone. Per-operative Cholangiogram was performed in each case using a Stoke-On-Trent catheter inserted through cystic duct. Exploration was performed in cases where X-ray revealed negative shadows in biliary tree. Catheter was left in-situ temporarily in cystic duct during operation in 6 patients for completion Cholangiography while choledochoscopy was done inremaining cases to confirm complete removal of stones from the biliary tree. Extraction of stone was achieved by repeated flushing using normal saline through a soft catheter introduced both up and down the bile duct. No rigid instrument was used during the whole procedure (Gunn 1977). Single layer primary closure was done by continuous through and through stitches using 4/0 chromic catgut. Choledocho-duodenostomy had to be performed in 2 cases because of stones impacted at lower end of C. B. D. Subhepatic area was drained by Radivac drain. Every patient had prophylactic antibiotic, Cefotaxime in the dose of 1 gm I. M. once with premedication and then 6 hourly for 2 doses only.

Results:

Of 84 patients majority were female, ratio being 3:1. Age range was 22-85 years with a mean age of 49. However age range of cases who had exploration of C.B.D. was 29-85 years with a mean of 52. Female and male ratio in these patients was also 3:1.

Exploration was done in 12 cases (15%) and primary closure achieved in 10 cases (84%). Table I Of 12 patients 2 Choledochotomies proved negative due to misinterpretation of Cholangiograms which were thought to show stones. Overall incidence of stones in bile duct in this series was 12%. There was no death in patients who underwent exploration. However of 84 patients 2 (3%) died in early postoperative period, one from pulmonary embolism and other from myocardial infarction. Both were potentially risk patients and grossly obese.

There was no postoperative complications in 9 patients who had primary closure of duct. However the remaining one patient developed pyrexia and right upper abdominal pain. There was no radiological evidence of any subphrenic collection. Total amount of Radivac drainge in this patient was 225 mls. She was treated with a course (7 days) of Cefotaxime and recovered very well.

Table—I

Operations	Duct explored	Primary closure	Choledochoduodenostomy	T-lube drainage
84	12 (2)	10	2	None

Her follow up in outpatient clinic was also satisfactory.

Amount of postoperative drain is shown in Table II. In primary closure amount of drain varied from 75 mls to 260 mls with a mean of 167 mls. Duration of postoperative stay is detailed in Table III. Range of stay was 7 to 20 days for patients undergoing primary closure with a mean of 14 days.

Choledochoduodenostomy was performed in 2 patients because primary closure was felt to be inappropriate. In both cases bile duct was dilated, tortuous and thick-walled containing large impacted stones. In one patient stone impacted at lower end could not be dislodged. In one patient stone impacted at lower end could not be dislodged. There was no clinical evidence of any leakage from the anastomosis. Both recovered well and discharged home after 14 days of Hospital stay. (Table III).

Table—II—*Amount of drainage*

Drain (Radivac)	No.	Mean total volume	Range
Primary closure	10	175 mls	75-260 mls
Choledochoduodenostomy	2	135 mls	90-220 mls

Table—III—*Hospital stay*

Name of operations	No.	Mean total stay	Range
Cholecystectomy	84	10.2 days	7-20 days
Duct exploration	12	12.2 days	7-20 days
Primary closure	10	11 days	7-20 days
Uncomplicated Primary closure	9	10 days	7-12 days

Discussion :

Although T-tube drainage of C. B. D. following exploration is favoured by majority of surgeon there is evidence that primary closure can be safely achieved in a number of cases of benign biliary tract disease. However this should not be undertaken routinely following exploration. T-tube drain has many disadvantages such as drainage of a large amount of bile into draining bottle causing perhaps some physiological disturbances in early postoperative period, higher incidence of wound infection, and perhaps longer period of convalescence in bed because of tube. Around the T-tube there may be leakage of bile in a significant number of patients with consequent risks if the amount is considerable or bile is infected (A. A. Gunn).

Longer period of convalescence may cause deep vein thrombosis and pulmonary embolism resulting in high morbidity and mortality particularly in elderly people. Short period of Hospital stay would give opportunity to other patients on waiting list to be admitted for surgery. Despite all these T-tube drain has a place in selected cases particularly when bile duct is grossly distorted, dilated or thick walled, when extensive manipulation has been done to dislodge impacted stone in lower part of the duct and for decompression of biliary tree in obstructive jaundice due to gall stone complicated by severe Cholangitis.

It is evident from our small series and experience of other surgeons that bile duct can be safely closed primarily following stone removal and negative exploration when the ducts are not grossly diseased. However surgeons should be experienced in biliary surgery. There should be facility for per-operative Cholangioaphy or Choledochoscopy. An effective suture technique is mandatory to miaimise the risk of leakage.

Primary closure of bile duct can be safely achieved in cases where bile duct is not grossly distorted, dilated or thick-walled, where there is no impacted stone at the lower end of bile duct and there are no gross inflammatory changes involving biliary tree and head of pancreas.

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COEXISTENCE OF CARCINOMA AND SARCOMA OF THE URINARY BLADDER–A CASE REPORT AND REVIEW OF THE LITERATURE

Syed Aziz Ihtesham Ally[1], Dharam Paul Alrenga[2]

Key Words :
Carcinoma; Sarcoma; Urinary bladder.

Summary :

Coexistence of two separate tumours of the urinary bladder, transitional cell carcinoma and leiomyosarcoma is being reported in a 66 year-old man. The carcinoma had produced extensive skeletal metastasis resulting in persistent and refractory hypercalcaemia which dominated the clinical course. The sarcoma was clinically silent. A review of the literature revealed six cases of simultaneous existence of separate carcinoma and sarcoma of urinary bladder.

Introduction :

Although carcinomas of the urinary bladder are quite common, primary sarcomas are uncommon at this site and occur at an estimated rate of two to three per thousand bladder cancers (Mackenzie, 1968). Rare instances of carcinosarcomas, tumours showing intimate admixture of of carcinomatous and sarcomatous elements, have been reported (Holtz, 1972 ; Sen, 1985). Even rarer is the coexistence of two separate tumours, a carcinoma and a sarcoma, in the same bladder. This case report documents one such rare instance.

1. Department of Pathology, University of Maryland Medical System, Baltimore, Maryland 21201, U.S.A.

2. Residency Program Director, Department of Pathology, Cook County Hospital, Chicago, Illinois 60612 U,S.A.

Case Report :

R, W. a 66 year-old black male presented with a history of pain in the right hip region of recent onset, two separate episodes of painless haematuria during past six weeks and ten pounds weight loss in eight months. He never worked in any industry, but smoked one pack of cigarettes per day for many years. Physical examination did not reveal any significant findings except for a painful hip joint on flexion and rotation.

The pertinent laboratory test results were as follows : haemoglobin 12.9 gm.% haematocrit 38%, white blood cells 8400/cu. mm., with normal differential count, platelets 212,000/cu. mm , blood urea nitrogen 28 mg%, serum creatinine 1.7 mg%, serum calcium 11 2 mg%, serum phosphorus 3.5 mg% and serum alkaline phosphatase 64

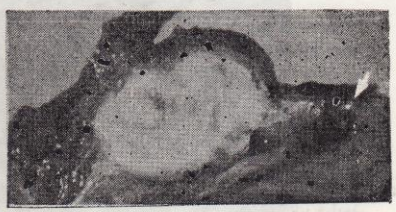
I. U./ml (normal : 10-60 I. U./ml). An electrocardiogram showed poor R wave progression in leads V_1 to V_4 indicating an old anteroseptal myocardial infarction. Urinalysis revealed many red cells and 20 to 25 white blood cells per high power field. X-rays of the chest revealed bilateral nodular infiltrates in the apices. Sputum examination was negative for acid-fast bacilli and malignant cells, but skin test for tuberculosis (PPD) was positive. Skeletal survey showed multiple osteolytic lesions in skull bones, mandible, right ischium and ribs. Serum protein eleotrophoresis did not reveal a monoclonal gammopathy. An intravenous pyelogram showed an equivocal filling defect in the posterior wall of the urinary bladder. Cystoscopy showed a 2 cm. diameter elevated mucosal tumour at the dome of the bladder. Biopsies of the tumour showed a transitional cell carcinoma, grade III.

Ethambutol and rifampicin were started and hypercalcaemia was initially treated with hydration and furosemide. The hospital course was dominated by persistent hypercalcaemia (upto 14.6 mg%) refractory to steroids, mithramycin, diuretics and hydration. Terminally he developed respiratory distress and hypoxia (arterial blood gases : pH 7.47, pO_2 48 mm Hg and p CO_2 36 mm Hg on room air). He expired on the 36th hospital day.

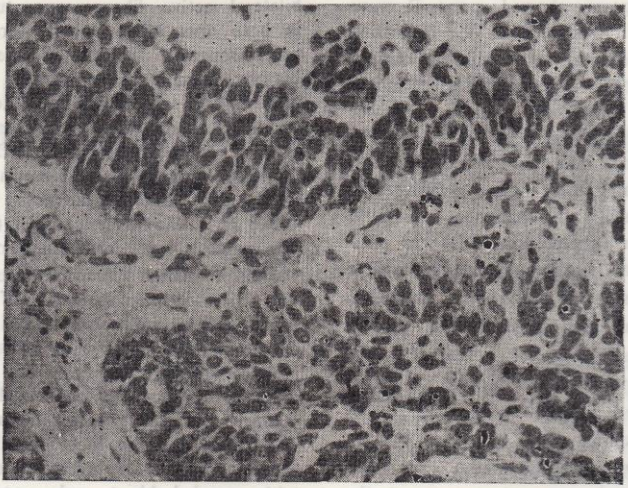
Autopsy Findings :

The autopsy, done 23 hours after death, revealed pulmonary embolism as the immediate cause of death. The heart showed atherosclerosis of coronary arteries and myocardial fibrosis in the anterior wall of the left ventricle. The lungs showed bilateral active fibrocaseous tuberculosis in both uper lobes. There were two entirely separate lessions in the urinary bladder. One was a 1.5 cm^2 diameter reddish gray soft elevation of the mucosal surface at the dome of the bladder correlating with the antemortem Cystoscopic findings. The other lesion was a firm intramural whitish tan mass measuring 4x3x3 cm in the posterior wall (Figure 1). The mucosa overlying the Intramural mass showed a shallow ulcer in its central part. The microscopic examination of the dome lesion showed infiltrating transitional cell carcinoma, grade III with invasion of the lamina propria (Fig. 2). The intramural mass was composed of pleomorphic spindle shaped cells lacking intercellular cohesion and focally forming loose bundles (Fig. 3) Their nuclei were ovoid to spindle-shaped, with rounded blunt ends, coarse hyperchromasia and frequent mitotic figures. The cytoplasm was eosinophilic and fibrilar, stained red with Masson's trichrome stain, and lacked cross striations. This tumour was interpreted as a high grade leiomyosarcoma infiltrating the muscular layers of the bladder wall and subserosal adipose tissue. Multiple sections failed to show any continuity between the two lesions.

Figure—1.



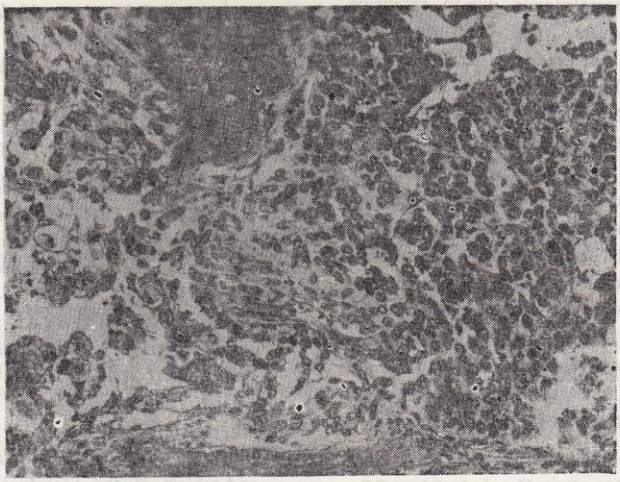
Gross photograph of the urinary bladder showing the mucosal carcinoma (arrow) and a separate intramural sarcoma.



Figure—2. *Photomicrograph of mucosal tumour showing infiltrating transitional cell carcinoma, grade III. Haematoxylin and eosin. Original magnification x 150.*

Figure—3. *Photomicrograph of intramurl tumour showing high-grade leiomyosarcoma. Haematoxylin and eosin. Original magnification x 200.*

The para-aortic lymph nodes and bones showed extensive metastases. The lung showed small subpleural metastases. These were examined by numerous sections all of which showed transitional cell carcinoma microscopically (Fig. 4). Metastasis from the sarcoma were not identified. The parathyroid glands and other organs were unremarkable grossly and microscopically.



Figure—4. *Photomicrograph of skeletal metastasis showing transitional cell carcinoma and residual bone trabeculae. Haemotoxylin and eosin. Original magnification x 150.*

Discussion :

The simultaneous occurence of two independent tumours of different histologic types in the bladder is extremly rare. Six cases of simultaneous occurence of separate carcinoma and sarcoma of the urinary bladder have been reported (Mackles, 1948 ; Powers, 1956 ; Melicow, 1957 ; Hejtmancik, 1960; Holtz, 1972). The carcinomas in all the cases were of transitional cell type, but the sarcomas included leiomyosarcoma, osteogenic sarcoma and myxosarcoma. Approximately 32 cases of carcinosarcomas of urinary bladder have been reported (Holtz, 1272 ; Dent, 1955; Brinton, 1970; Patterson, 1979; Sen, 1985).

Carcinosarcoma is a single, usually polypoid, tumour consisting of intimately admixed carcinomatous and sarcomatous elements. The carcinomatous elements have

included squamous and glandular epithelium, and the sarcomatous elements have included heterologous elements (skeletal muscle, cartilage and bone) in addition to smooth muscle tissue.

The clinical course of the patient described in this report was dominated by persistent hypercalcaemia due to extensive skeletal metastases from transitional cell carcinoma of the bladder. Skeletal metastases from bladder carcinoma have been reported in 2 to 55% of autopsied cases with an average incidence of about 35% (Fetter, 1959). Since they are commonly osteolytic (Fletcher, 1954), presence of hypercalcaemia is not unexpected. Sarcoma of the bladder tend to be slow growing and spreads most commonly by local invasion ; metastasis occurs late and is present in 25% of autopsied cases (Brinton, 1970). The sarcoma in this case was clinically silent and did not produce any metastasis inspite of its larger size and penetration of the bladder wall.

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CHONDRODYSPLASIA PUNCTATA : A CASE REPORT AND BRIEF REVIEW

Hamidur Rahman.

Summary:

Chondrodysplasia punctata or Chondrodystrophia calcificans congenita punctata is a disorder of skeletal system characterized by ectopic calcification of the cartilage, varying degrees of growth retardation, occurs in difflernt forms. Clinical features and roentgenographic examiniation are the basis for the diagnosis. The presented case was a typical of autosomal recessive or rhizomelic type of chondrodysplasia punctata, as she had microcephaly, bilateral cataracts, symmetrical proximal shortening of the extremities, contractures of elbows, thighs and digits, marked metaphyseal changes, stippled epiphyses and punctate calcification.

Case Report :

A 4 months old female child was born prematurely at 8 months of gestation to consanguineous parents and suffered birth asphyxia She was admitted in to the Hospital for some congenital anomalies and developmental retardation. Mother was healthy and did not take any medicine during pregnancy. On examination there was microcephaly with head circumference of 32·5 cm, mongoloid appearance with depressed and widened nasal bridge and upturned bulbous tip, bilateral congenital cataracts, high arched plate, short neck, flexion contractures of both elbows, knees and in all digits. There were Symmetrical shortening of arms and thighs. Development was markedly delayed. No other abnormalities were detected.

Routine investigation showed Hb 12%, T. C. of W. B. C. 9,000/Cmm with P-44%, L-46%, E-6% and M-2%. Blood cholesterol level and radioactive iodine uptake were normal. Roentgenogram of bones showed bilateral short and thick humerus and femur with widened metaphyseal ends (Fig. I). Stippled epiphyses at the knees and hips and extracartilaginous punctate calcification at the knees and around pelvic bones (Fig-II). The diagnosis was then made as chondrodysplasia punctata.

Discussion :

Chondrodysplasia punctata (Ch. P) or Chondrodystrophia calcificans congenita punctata is a disorder of skeletal system characterized by ectopic calcification of cartilage, varying degrees of growth retardation and usually associated with other anomalies. Calcification occurs in cartilage and in synovial membrane. Long bones

Associate Professor of Paediatrics, Rangpur Medical Colloge, Rangpur, Bangladesh,

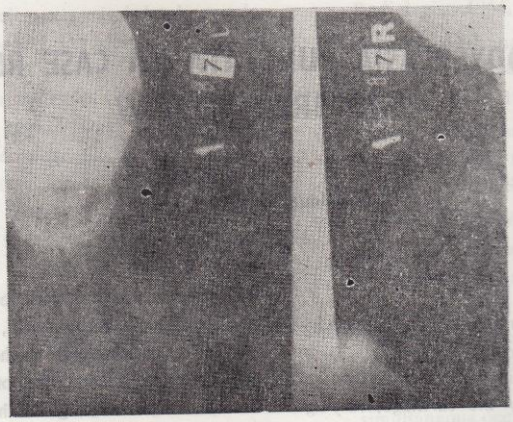

Fig.—I. *Short humerus with widened metaphyseal ends in Chondrodysplasia Punctata.*

Fig.—II. *Punctate Calcification at the knees and around Pelvic bones in Chondrodysplasia Punctata.*

are commonly involved. Vertebrae, ribs, sternum, scapulae, ilia, ischii, larynx, trachea are also involved. Abnormality of mucopolysaccharide may be the basic process which supported by qualitative test but quantitative estimations were normal (Tasker '72).

This disease appears in different forms. Spranger (Spranger '71) described two main forms : Conradi—Hunneramann type, a milder form and runs as an autosomal dominant trait; Raizomelic form which is severe and lethal, runs as an autosomal recessive trait.

A third type which is inherited as sex linked dominant has been described (Happle '77, Happle '79, Manzke '80).

A possible fourth type is a phenocopy produced by different environmental

agents such as warfarin and probably phenytoin has been described (Becker '75, Collins '77, Whitefield '80).

A fifth type, Mesomelic type of chondrodysplasia punctata has also been suggested (Burck '82). Precise hereditary pattern has not been delineated.

A variety of causes have been proposed for this condition. Some evidence favours a genetic origin (Spranger '71, Happle '77, Manzke '80). Oral anticoagulant such as warfarin and antiepileptic drugs such as phenytoin during early months of Pregnancy has also been suggested as a cause and several cases have been reported (Becker '75, Pettifor '75, Shaul '75, Paulu 76, Abbott '77, Gollins '77, Whitefield '80).

Thyroid disorders in either mother or infant has also been proposed as a cause and maternal hypothyroidism might be a teratogenic factor (Josephson and Orienty '61). Caffey (Caffey '72) mentioned the similarity of post infectious arthritis and chondrodysplasia punctata. One of his two cases in whom the radiological appearances were that of chondrodysplasia was presumed to have infected with Listeria Monocytogenes and the other have contacted with swine Influenza-Erysipelothrix rhusiopathiac.

The clinical characteristics of different types vary greatly. Autosomal dominant form is characterized by flat facies with depressed nasal bridge, asymmetric shortening of the extremities, occasional contractures, punctate calcification at the epiphyses, around the spine and pelvis and irregularities of vertebral bodies. Cataracts occur in 17% of the patients and atropic skin changes in 28%, (Spranger '71), but Happle mentioned about the absence of cataract in this type (Happle '81). Follicular atrophy of the distal extremities and areas of alopecia on the scalp are often found (Comings '68). These patients have a relatively good prognosis. Lionel described one case in which there was gradual loss of the stippled epiphyses of all affected areas and he had no difficulty what so ever (Lionel '79).

The recessive form or rhizomelic form is characterized by mongoloid facies, flexion contractures of joints, symmetrical proximal shortening of the extremities, marked metaphyseal changes and symmetrical distribution of calcification with either lack or paucity of calcification in spines. Bilateral cataracts occur in 72% of cases and skin changes in 28%. This condition runs a rapid course and death usually occurs within one or two years but if the patients survive, they develop severe mental retardation with spastic paraplegia (Spranger '71).

Sex linked dominant type of chondrodysplasia punctata is characterized by pathognomonic dermatological findings which include erythematous skin changes and striated ichthyosiform hyperkeratosis during first months of life. Later on linear or whorled patterned ichthyosis, follicular atrophoderma, coarse lusterless hair and cicatrical alopecia become evident, asymmetraical shortening of the extremities and discrete punctate calcification. Unilateral cataracts, scoliosis and short stature in some cases (Happle '77 Manzke '80, Scheibenreiter '82). Intelligence

and life expectancy are normal (Happle '79).

The features of chondrodysplasia punctata following warfarin and phenytoin are those of other types but the marked features are hypoplasia of the nasal bridge producing nasal obstruction, presence of stippled calcification of vertebrae and calcanei and developmental delay in some (Becker '7ɔ). Optic atrophy, microcephaly and cerebral agenesis have also been described (Villasanta '65)

The mesomelic type is characterized by shortening of the middle segment of the extremities, symmetrical punctate calcification are found in carpal, torsal and coccygeal region. Skin changes and cataracts are not seen. The other skeletal abnormalties are in the form of relatively short distal ulnae, long proximal fibulae, dislocation of radial heads and patellae are also observed (Burck '82). Prognois is variable.

It is evident that thd constant manifestations in all the typcs are saddle nose deformtiy, hypertelorism, frontal bossing, a high arched palate, short neck and short stature but in x-linked form the head is often asymmetric due to hypoplasia of one types of chondrodysplasia.

Roentgenographic changes are the most characterizing signs and are the basis for diagnosis of chondrodysplasia punctata. Three types of calcifictions are seen : (1) Small regular punctate lesions in scattered locations (ii) irregular densities involving most of the epiphyses and (iii) Cloudy densities involving most of the cartilage.

No case of chondrodysplasia punctata has so far been reported in Bangladesh but in Indian literature two cases were reported and both were of recessive variety. (Veerinder '78, Dhareshwar '81). The presented case had most of the features similar to those of Dhareshwar's case.

As there is no curative treatment of this condition; early diagnosis, supportive therapy and prevention & prompt treatment of infection are the usual management. Unfortunately the child fell off from follow up.

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CILIA INCARNATA—A RARE ANOMALY (CASE REPORT)

Md. Israfil[1]., A. S. M. Kamaluddin[2].

Key words :
Cilia Incarnata,Eyelid,

Introduction

Cilia incarnata means ingrowing of eyelashes whsch is very rarely found (Duke-Elder, 1969). In this anomaly the hair grows out of the orifice of the follicle but so obliquely that after reaching the epidermis it grows into and under it; indeed, it may not penetrate the outer epidermal layer but grow beneath, for whole of its extent. This Phenomenon was first noted by Makrocki (1883, Quoted from Duke-Elder) who

Resident Surgeon & Assistant Professor (Eye) IPGMR, Dhaka, Bangladesh.
Resident Surgeon (Eye) Sylhet Medical College Hospital, Sylhet, Bangladesh.

termed it a "perverse subcutaneous growth of the cilium". One lash or a clump of them may be affected and they may grow outwards under the surface of the skin of the lid. Very rarely eye lash may turn inwards under the conjunctiva tarsi.

Case Report

The patient a 25 years old girl presented with a small erruption in the right upper lid having slight discomfort with a duration of two weeks.

On examination it was found that there is a blackish vertical line in the skin of right upper eyelid (Fig. 1). This vertical line appeared to be a naevus to the naked eye. The diagnosis was confirmed be slit-lamp examination that it was an ingrowing lash. On other ocular examinations visual acuity was found 6/9 in both the eyes and no other abnormalities was detected.

A very small incision was made over epidermis at the root of the eye lash and it was epilated. The case was followed up for six months and no recurrence was found.

Fig.—1. *Showing the blackish vertical line in the upper eyelid.*

Discussion:

Probably cilia incarnata is not yet reported in Bangladesh and it may be the first case described. It was first noted by Makroeki (1983). Agarwala described such a case in 1863. This should be clearly differentiated from two other conditions, distichiasis and trichiasis. Distichiasis is easily

discarded as cilia incarnata has nothing to do with the meibomian gland or any anomalous gland in that area. Trichiasis is a condition in which a cilium turns inward. It exists from the lid margin at its normal site. Moreover, the inward-turned cilia are usually found in multiple numbers and are almost always associated with some pathologic condition of the lid. (Agarwala, 1963). Actual cause is obscure; may occasionally be heriditary (Weninger, 1928, Quoted from Duke-Elder). Recurrences may occur and to be treated in the same manner.

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VASCULAR RETRACTOR FROM PAPER CLIPS

Shafiqul Hoque

Key Words:

Vascular retractor; Vascular anastomosis.

Summary:

Various types of vessel retractors has been designed and constructed from Jame's paper clips. These are easy to construct, can be sterilised by autoclaving, disposable and cheap. Such instruments have been satisfactorily used in experimental vascular surgery and clinically in kidney transplantation for vascular dissection & anastomosis.

Introduction:

Vascular retractors are needed for finer dissections to expose vessels and for smooth anastomosis with minimum trauma. The available instruments are expensive. Here the author describes construction of vessel retractors from simple modification of Jame's paper clips which are cost-saving, atraumatic and effective.

Materials and Methods:

A number of triangular ordinary Jame's paper clips and two needle holders are the basic instruments for the construction of the retractors. They are autoclaved along with other surgical instruments. The paper clips has two loops, inner & outer (Fig. 1). The tip of the inner loop has a bend of about 30°. Now by the help of two needle holders, the two loops are gently bent at their junctional points to different angles in different

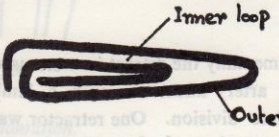

Fig 1 : *Jame's Paper Clip*

Assistant Professor of Surgery (Paediatric)
Institute of Post-Graduate Medicine & Research
Dhaka. Bangladesh.

directions (Fig. 2) to make various types of vessel retractors. The outer loop is used as the "handle piece" and the inner loop as the "Retractor blade" usually (Fig. 3). The retractor blade can also be bent to different angles at different directions from the angled tip to give various sized and shaped retractor blades. The handle piece may be tightly wrapped with black silk for a better & steady grip by one needle holder which is used as the handle. Usually 10 pieces of paper clips taken for a single operation which may be disposed off after use, though re-usable.

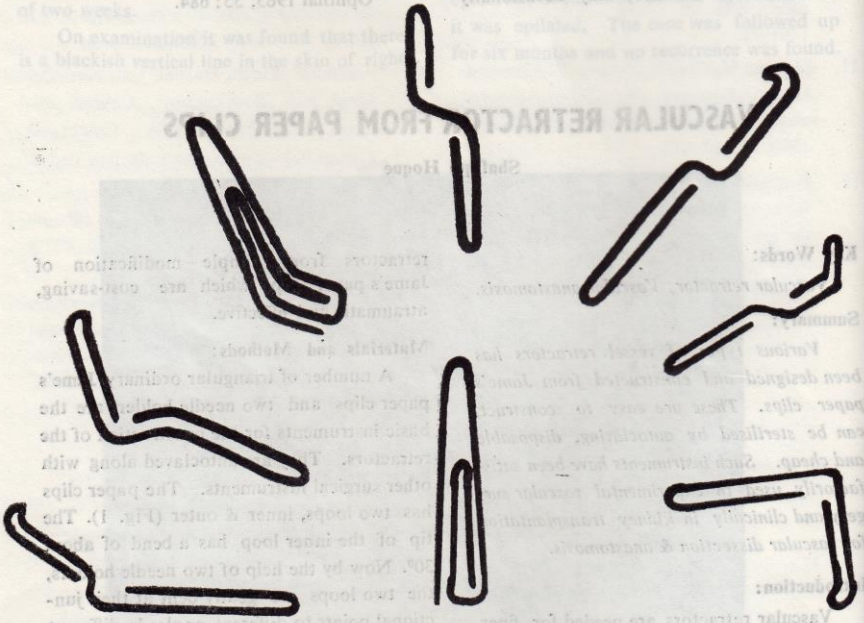

Fig 2 : *Various types of Retractors made from James paper clip.*

Experimentally the retractors were used in femoral artery anastomosis in a lamb after complete division. One retractor was used for retraction of femoral vein and another one was used for lifting the artery for a clear posterior dissection (Fig. 4). During anastomosis a shortly-bent-tip (Fig. 5b) retractor was used to keep the edges steady & clear in view. Dissecting forceps were used minimally.

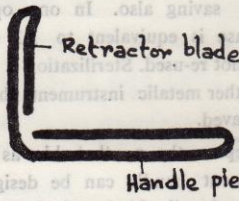

Fig 3 : *Right-angle-bent retractor.*

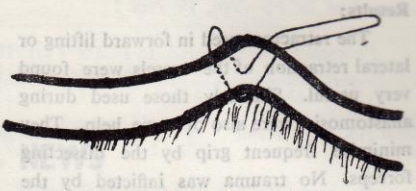

Fig 4 : *Forward lifting of the blood vessel for posterior dissection.*

Clinically the retractors were used in two cases of Kidney Transplantation. One retractor (Fig. 4) was used for lifting the external iliac vein for posterior dissection. During venous anastomosis one right-angled bent retractor (Fig. 5a) was used for retracting the collapsing edge of the external iliac vein. During arterial anastomosis a shortly & more acutely bent retractor was used for retracting the edges (Fig. 5b).

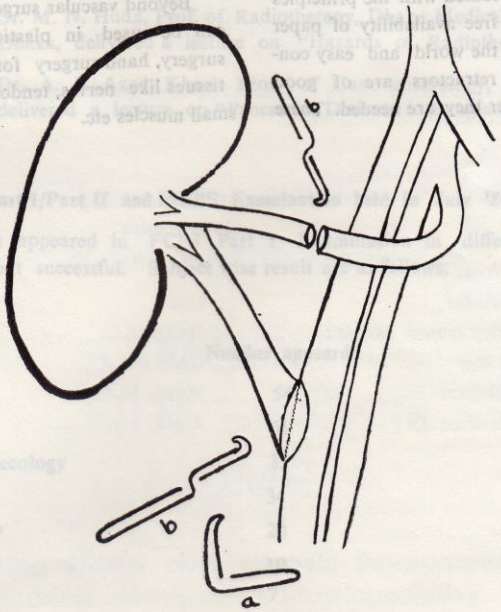

Fig 5 : *Clinical use of retractors in kidney transplantation.*
a. Right-angled-bent retractor for retracting edges of external iliac vein.
b. Shortly-bent-tip retractor for retracting edges of arteries & renal vein.

Results:

The retractors used in forward lifting or lateral retraction of the vessels were found very useful. Similarly those used during anastomosis were also of some help. They minimise frequent grip by the dissecting forceps. No trauma was inflicted by the retractors in experimental or clinical procedures.

Discussion:

The retractors used here are good alternative to the existing ones. The retractors were found to be atraumatic and less likely to cause any trauma in the hand of surgeons accustomed with the principles of surgery. The free availability of paper clips throughout the world and easy construction of the retractors are of good advantage whenever they are needed. These are cost saving also. In one operation the expense is equivalent to 1-3 cents if they are not re-used. Sterilization is simple; as with other metalic instruments these can be autoclaved.

To replace the needle holder as handle, a permanent handle can be designed to which the handle blade of the retractor could be firmly secured & easily disposed off after use. Possibility of missing the retractors inside the operative field can be prevented by pre-checking the instrument about its firm attachment with the handle and counting of instruments before wound closure as a general rule.

Beyond vascular surgery these retractors can be used in plastic surgery, microsurgery, hand surgery for retraction of soft tissues like nerves, tendons, blood vessels, small muscles etc.

COLLEGE NEWS

MCQ (Multiple Choice Question)

MCQ system was introduced for FCPS Part I (General Portion) examination held in July, 1986.

Continuing Medical Education Programme

March 27, 1986 : Dr. M. N. Huda, Prof. of Radiotherapy, Dhaka Medical College Hospital, Dhaka, delivered a lecture on "Hazards of Radiotherapy".

August 28, 1986 : Dr. A. K. Azad Khan, Prof. of Gastroenterology, IPGMR, Dhaka, delivered a lecture on "Pancreatic Diabetes in Bangladesh".

Results of FCPS Part I/Part II and MCPS Examination held in July '86.

234 candidates appeared in FCPS Part I Examination in different subjects. 35 candidates came out successful. Subject wise result are as follows.

Subject	Number appeard	Number passed
Medicine	54	11
Surgery	61	10
Obst. & Gynaecology	33	4
Paediatrics	34	6
Ophthalmology	20	1
Psychiatry	10	0
ENTD	7	1
Radiology	2	0
Anaesthesiology	9	2
Radiotherapy	1	0
Clinical Pathology	3	0

52 candidates appeared in FCPS Part II Examination in different subjects. List of candidates who satisfied the Examiners are as follows:

Roll No.	Name	Name of Medical College of Graduation	Subject
1	Dr. Dilip Kumar Roy	SMC	Medicine
18	Dr. S. M. Monirul Hasan	SSMC	Surgery
19	Dr. Md. Abdul Gafur Miah	MMC	Surgery
21	Dr. A. K. M. Razzaque	SMC	Surgery
33	Dr. Md. Sajid Hasan	DMC	Surgery
34	Dr. Anwarul Islam	CMC	Surgery
42	Dr. Parveen Fatima	Rang. M. C.	Obst. & Gynae
48	Dr. Shyamal Krishna Saha	MMC	ENTD
49	Dr. Gopal Sankar Dey	SMC	Psychiatry
51	Dr. Md. Jalal Uddin	DMC	Cl. Pathology

41 candidates appeared in MCPS Examination in different subjects. List of candidates who satisfied the Examiners are as follows:

Roll No.	Name	Name of Medical College of Graduation	Subject
2	Dr. A. F. M. Atiar Rahman	CMC	Medicine
5	Dr. Haribar Halder	CMC	Medicine
10	Dr. (Maj.) Bejoy Kumar Sarkar	Rang. M.C.	Surgery
18	Dr. Joya Sree Roy	CMC	Obst. & Gynae
23	Dr. Hamida Begum	Rang. M.C.	Obst. & Gynae
27	Dr. Nidhu Bhushan Dey	CMC	Paediatrics