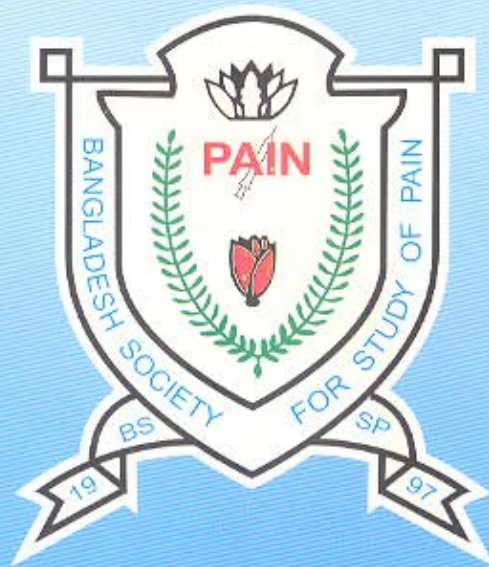


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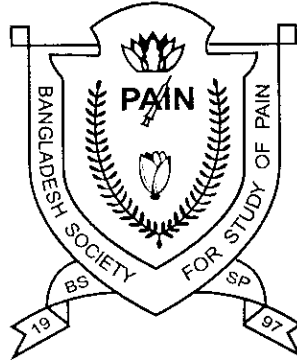


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Pain assessment and management in older adults

Awareness of the prevalence of pain in older adults is critical because people over age 65 are the fastest growing segment of the population globally including Bangladesh¹⁻⁴. This group of people is projected to be doubled by 2040⁵.

Pain in the absence of disease is not a normal part of aging, yet it is experienced daily by a majority of older adults⁶. They are at high risk for under treatment of pain due to a variety of barriers. These include lack of adequate education of health care professionals, cost concerns and other obstacles related to the health care system, and patient related barriers, such as reluctance to report pain or take analgesics. Unrelieved pain in the older adult has significant functional, cognitive, emotional, and societal consequences.

Pain sensitivity may differ in adults of advanced age. There may be age-related increase in pain threshold and a relative absence of pain symptoms accompanying myocardial complaints, intra-abdominal infections, various types of malignancy, and other conditions involving acute inflammation⁷. However, one should not assume that older people experience less pain than their younger counterparts. The absence of a report of pain does not mean that pain does not exist. Furthermore, if there is a diminished sensitivity to pain threshold in an older adult patient, this does not mean that the older adult patient experiences less pain when they actually report it.

Barriers to adequate pain management in the older adult arise from three major sources: the patient, the health care community, and society at large⁸. Patients, families and health care professionals hold strong personal beliefs and fears about the meaning of pain and pain treatment options.

The most important components of pain assessment in older adults are regular assessment, standardized tools, and consistent documentation. Pain rating scales and pain behavior scales have been developed for use with the older adult in a variety of clinical settings⁹⁻¹². Regardless of which tool is chosen, the key to effective measurement of pain intensity is to find the most

appropriate scale then use the same standardized tool to document pain intensity and locations, to measure change, to evaluate pain treatment, and to communicate findings to other care providers.

The ideal pain tool is a standardized tool validated for use in the older adult. It should be sensitive to cognitive, language, and sensory impairments. Cognitive impairment and dementia are not barriers to adequate pain assessment, since patients with these conditions have been assessed without difficulty using simple questions and screening tools¹³⁻¹⁶. A variety of verbal descriptor scales, pain thermometers, numeric rating scales, and facial pain scales have validity and are acceptable for many older adults. A good first choice is the verbally administered 0-10 numerical rating scale (NRS), especially if the patient's low vision causes difficulty with visual scales. Some cognitively impaired older adult patients are, in fact, able to use the NRS. For older adults with mild to moderate cognitive impairment who do not understand the NRS, the following pain rating scales should be tried in the following order:

- Verbal Descriptor Scale: adjectives describing pain, such as "mild", "moderate", and "severe"
- Pain Thermometer: diagram of a thermometer with word descriptors that shows increasing pain intensities
- Faces Pain Scale: a series of faces that best express the level of pain being experienced.

Unfortunately, no valid tool provides objective ratings of the behaviors associated with pain in cognitively impaired older adults who are unable to provide self-reports¹⁷. Current behavioral assessment tools have been developed but require further validation for use in clinical practice.

Pain control begins with a thorough assessment, including an extensive history and physical examination. Patients should have the right to appropriate assessment and management of pain and requires systematic and regular assessment of pain in all hospitalized patients.

During an outpatient visit, it is appropriate to inquire about pain on each visit. If a patient has increased pain, increase the assessment frequency using clinical judgment. This information guides the plan of care, including both pharmacologic and nonpharmacologic therapies. Pharmacologic therapies include non-opioids, opioids, and adjuvant analgesics. Nonpharmacologic techniques include cognitive-behavioral strategies, such as distraction, guided imagery, education, and prayer, and physical measures, including heat, massage, bracing, and assistive devices. Health care professionals must be cognizant of the special pain-related needs of this fastest growing segment of the population.

Due to barriers in the health care system, the patient, and society, elders are at great risk for undertreatment of pain. To meet the special pain-related needs of this fastest growing segment of the population, physicians working with pain must be able to assess and treat pain in elderly persons. A thorough pain assessment is critical, as the information obtained guides the plan of care, including both pharmacologic and non-pharmacologic therapies. Special attention should be given to improve pain practitioners' knowledge on assessment and management of pain in older adults.

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(*Pain Journal 2006; 2: 1-2*)

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Intrathecal Low Dose Pethidine Vs. Fentanyl with Hyperbaric Bupivacaine for Elective Caesarian Section - A Comparative Study

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MD. REFAT HOSSAIN MALIK¹

(*Pain Journal 2006; 2: 3-7*)

Introduction

General anaesthesia for caesarian section is associated with an increased risk of maternal mortality¹, especially as it is often carried out in an emergency situation. It is therefore standard practice to use regional anaesthesia wherever possible.

Regional anaesthesia has become more popular in caesarean section deliveries because most of the parturients prefer being awake during the birth. Epidural anaesthesia still used has some drawbacks such as incomplete block, inadequate muscle relaxation and delayed onset of surgical anaesthesia.² Neuraxial block for caesarean delivery has become increasingly popular as data indicating an increased maternal mortality with general anaesthesia have accumulated.³ Many practitioners prefer spinal anaesthesia to epidural block since it takes less time to perform, is faster in onset, allows shorter time from operating room entry till the achievement of surgical anaesthesia, and provides a more consistent and reliable regional block.⁴

But, spinal anaesthesia, particularly in parturient, is associated with frequent hypotension. The hypotension of spinal anaesthesia is primarily caused by decreased efferent sympathetic outflow. Opioids and local anaesthetics administered together intrathecally have been shown to have a synergistic analgesic effect.⁴ Intrathecal opioids enhance analgesia from subtherapeutic doses of local anaesthetic⁵ and make it possible to achieve spinal anaesthesia using otherwise inadequate doses of local anaesthetic. The decrease in sympathetic efferent activity after spinal anaesthesia is related to the dose of bupivacaine, and intrathecal

fentanyl causes no further depression of the efferent sympathetic activity. Pethidine is an opioid of intermediate lipid solubility and is unique in having significant local anaesthetic property. It has been used as a sole agent during spinal anaesthesia for caesarean section⁶ and also in low dose with hyperbaric bupivacaine in epidural post operative analgesia after caesarean section.

Patients undergoing caesarean section delivery under spinal anaesthesia may benefit from the co-administration of local anaesthetic and opioid agents, because of improved intra-operative comfort, apparent prolongation of spinal analgesic action and reduction in post operative requirements for additional analgesia.

It has been demonstrated that fentanyl added to small dose of local anaesthetic in subarachnoid block improve the quality of block and improve duration of sensory block. Pethidine has also been considered a suitable opioid for intrathecal administration for optimum analgesia after caesarian section.. Fentanyl is more expensive and it is not always widely available. On the contrary pethidine is less expensive and it is produced locally. Lot of studies are available about combination of bupivacaine plus fentanyl for intrathecal anaesthesia. But searching literature, intrathecal administration of bupivacaine plus pethidine in caesarian section has not been found.

In this study effects of intrathecal low dose pethidine plus bupivacaine as an alternative of bupivacaine plus fentanyl for elective caesarean section have been compared in terms of quality of motor, sensory block, post operative analgesia and adverse effects of spinal opioids.

Materials

Inclusion criteria: Patients of elective caesarian section, Patients of ASA-I and ASA-II.

Exclusion criteria: PIH, Eclampsia, Placenta previa, Abruptio placenta, Obesity, COPD, Clotting diathesis, Allergy to either drug.

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Methods

It was a Prospective Comparative Study of 90 parturients under going elective caesarean section under spinal anaesthesia.

Pethidine group designated as Group-BP: parturient received Hyperbaric 0.5% bupivacaine of 2 ml (10 mg) with 0.2 ml (10 mg) of 5% Pethidine (n=30).

Fentanyl group designated as Group BF: Parturient received Hyperbaric 0.5% bupivacaine of 2 ml (10 mg) with 0.2 ml (10 µgm) of Fentanyl (n=30).

And Bupivacaine group designated as Group B: Parturient received Hyperbaric 0.5% bupivacaine of 2 ml (10 mg) with 0.2 ml of distilled water.

All parturient were premedicated with inj. Clorproperazine and inj. Ranitidine. Standard monitoring was applied, including continuous pulse oxymetry and ECG Noninvasive arterial blood pressure was recorded each three minutes interval from the time of intrathecal injection till delivery. And then at five minutes interval until the end of operation. Hypotension defined as a decreased in systolic arterial pressure to less than 90 mmHg or a decrease of 25% from baseline, was treated with bolus of IV Ephedrine 10 mg as required. Before incision sensory block was assessed by pin prick test and motor block was determined by Bromage scale

Times of skin incision, uterus incision and delivery was noted. After delivery of baby inj-Oxytocin 10 unit IV was given. APGAR score of the baby was recorded at 1 and 5 minutes.

Intraoperative pain and pruritus was assessed according to a three point scale (0=no symptom, 1=mild symptom with no treatment required 2= symptoms were such that treatment was required on parturient request). Pruritus was treated with IV chlorpheniramine 10 mg. Any instances of respiratory depression (defined as a respiratory rate of less than 12 breaths/min), Shivering or nausea or vomiting if any was recorded. Nausea and vomiting was treated with IV prochlorperazine 10 mg after first excluding of hypotension.

In the post operative ward the parturient was monitored in terms of intensity of pain by Verbal rating score (VRS) 1=no or negligible pain, 2= slight, 3= Moderate, 4= Severe pain, 5= Very severe pain (see appendices). And

the time of rescue analgesia was recorded. Parturient was also monitored for sedation, respiratory rate, pulse oxymetry and non invasive arterial pressure every 15 minutes for 6 hours and the at hourly until parturients were discharged after 24 hours.

Quality of anaesthesia was assessed by “6” point scoring system depending on the incidence of side effects (Sedation, Pruritus, Nausea and Vomiting , Chest pain, Restlessness, Shevering) during perioperative period each was scored ‘1’ if present and “0” if absent thus quality of anaesthesia was catagorized as:

- Excellent : 0
- Good : 1 – 2
- Fair : 3 – 4
- Poor : 5 - 6

Data processing:

All statistical analysis were carried out using SPSS statistical package (SPSS 11.0 for Windows Version). All results are expressed as mean + Standard deviation (SD) or infrequencies as applicable. The results were compiled and analyzed using ANOVA or X² -test as appropriate. Results were considered statistically significant if p<0.05 (CI=95%).

Results

Observation of the result study was analyzed in the light of comparison among three groups and within groups as appropriate. Each group having n=30. All results are expressed as Mean + SD and values were considered significant if p<0.05.

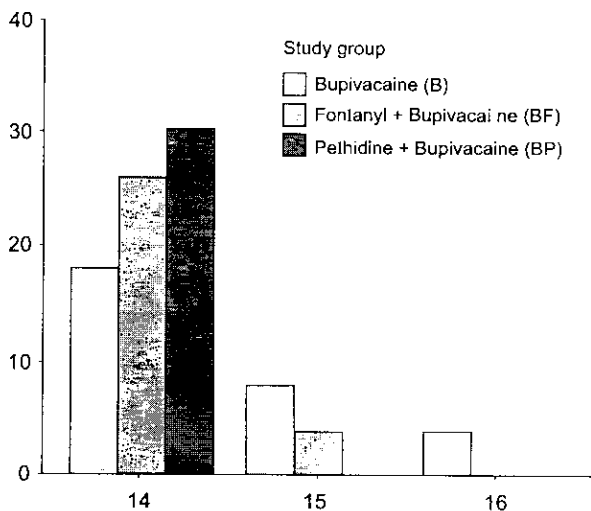


Fig.-1: Sensory block (height of anaesthesia)

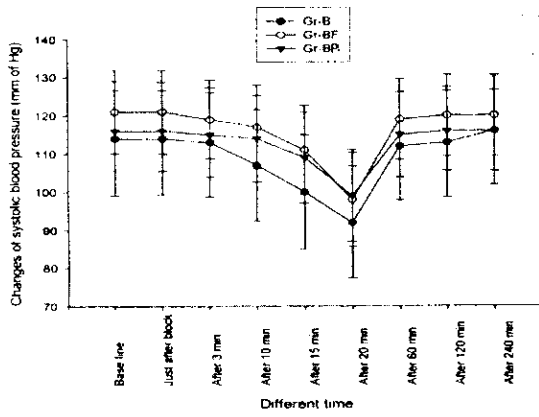


Fig-2: Changes of systolic blood pressure in different time period

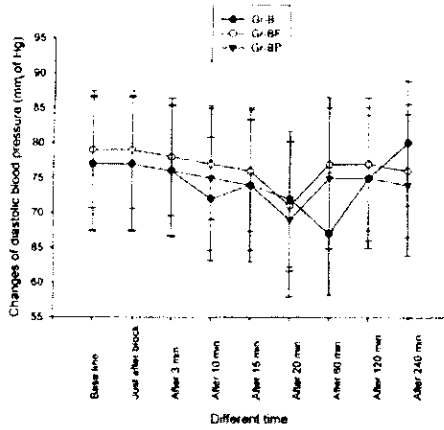


Fig-3: Changes of diastolic blood pressure in different time period

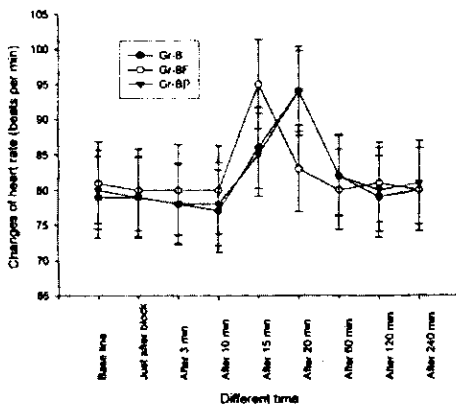


Fig-4: Changes of heart rate in different time

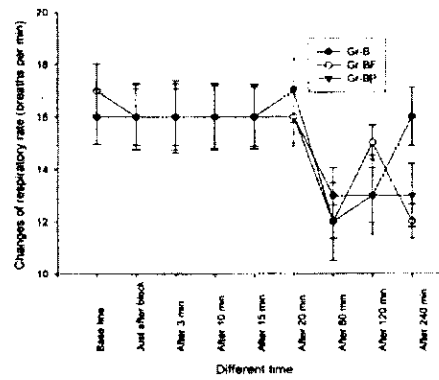


Fig-5: Changes of respiratory rate in three studied group

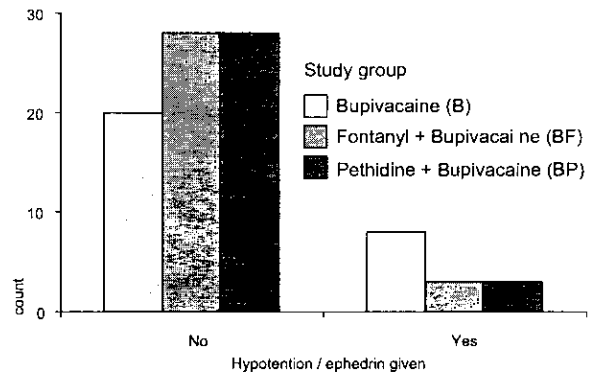


Fig-6: Hypotention / ephedrin given

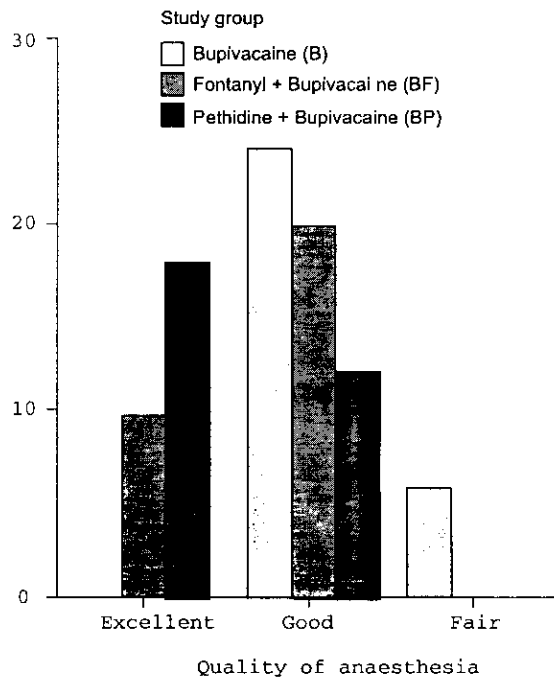


Fig-7: Quality of anaesthesia

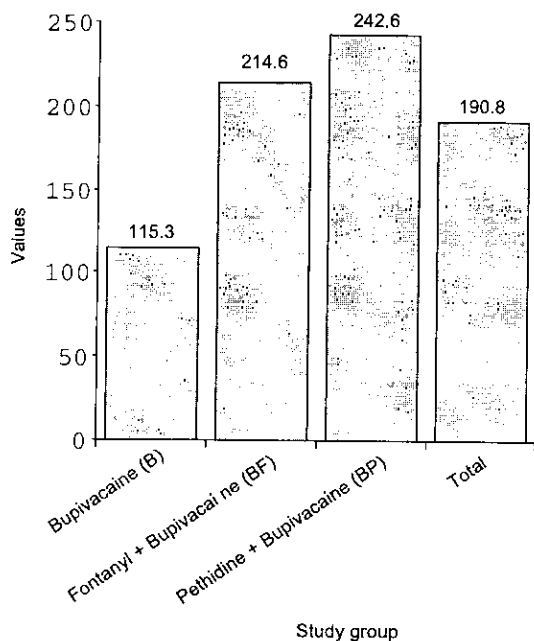


Fig.-8: Study group

Discussion

Patient undergoing CS under spinal anaesthesia may benefit from the co-administration of local anaesthetic opioid agents, because of improved intraoperative comfort⁷

W.D. Ngan Kee et al, demonstrated that lipid-soluble opioids (Pethidine) have been shown to decrease discomfort from intra-operative peritoneal manipulations when compared with intrathecal bupivacaine⁸. Duck Hwan Choi et al, found in their study, complete analgesia and excellent muscle relaxation were achieved in all of the patients with intrathecal injection of 8 mg of hyperbaric bupivacaine plus 10mg of Pethidine during CS⁹.

Rutter DV et al, had compared of pethidine and fentanyl as intrathecal opioids for post operative analgesia. He showed quality of was almost same for two groups but fentanyl had rapid onset but short duration, where as pethidine had delayed onset and prolong duration¹⁰.

This randomized prospective comparative study demonstrate equivalence in analgesic effective and quality anaesthesia between bupivacaine with fentanyl and bupivacaine with Pethidine (Table-12,13,14,15, Fig-7,8) sedation, chest pain, restlessness was statistically

higher in Bupivacaine and fentanyl group than Pethidine group The quality of anaesthesia and post-operative analgesia of this study is similar with study of Alexander Gurevitch et al. Both fentanyl and pethidine had comparable effects in terms of motor and sensory heights, with stable haemodynamics

However, an important limitation of use of intrathecal pethidine is increased intraoperative nausea and vomiting which can be reduced by using prophylactic antiemetics.

From this study it may be concluded that 10 mg of Pethidine with 10 mg of hyperbaric bupivacaine into the intrathecal space found to be no side effects of intrathecal opioids like itching, nausea, vomiting or ventilatory depression.

Conclusion

The addition of intrathecal Pethidine 10 mg to hyperbaric bupivacaine 10 mg prolonged analgesia after CS compared with fentanyl 10 µgm or bupivacaine 10 mg alone, although the duration of effective analgesia limited to approximately 4 hours. Pethidine has the advantage over fentanyl being widely available and inexpensive. This study demonstrated that low dose pethidine with bupivacaine can be used intrathecally in elective CS because it keeps the parturient haemodynamically stable causes effective prolong post operative analgesia without affecting the outcome of the baby compared with bupivacaine fentanyl group and bupivacaine alone.

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Occupational Distribution of patients Suffering with Nonspecific Low Back Pain

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Abstracts:

Objectives: to find out the occupational distribution of patients with non specific low back pain attending the outpatient department of physical medicine and rehabilitation, IPGMR (now BSMMU) during December 1996 to August 1997. *Methodology:* This was a retrospective study and the information were collected from patient's registrar of the department of Physical Medicine and rehabilitation. *Results:* A total of 4548 patients were studied. Out of all the recorded patients 30.87% were suffering from low back pain. Among the patients with back pain 34.97 percent patients were with non specific low back pain being 66% of the patients were male. Housewives constitute the highest (23.42%) of all occupations among sufferers. *Conclusions:* Non-specific LBP is a common problem. More than 90% of episodes of LBP are of mechanical origin and these episodes of occupationally related LBP are twice as common in adults over the age of 40yrs. The most risky position for the causation of back pain is with forward flexion, rotation, and with lifting a heavy load not held close to the body may be an explanation as seen the frequent cause of LBP in house wives in this study.

(Pain Journal 2006; 2: 8-11)

Back ground and Introduction:

Low back pain (LBP) is a ubiquitous health problem¹. Surveys suggest the prevalence of back pain in the adult population is 14-31%, with a 60-80% life time incidence and 70% suffering three or more recurrence². In most cases of back pain no underlying disease can be established and the causes of the complaints remain unknown.³ The etiology of a painful back encompasses a wide range of possibilities. As many as 90% of patients with back pain have a mechanical reason for their pain.⁴ The most common diagnosis in cases of acute LBP are non-specific (e.g. lumbosacral strain & sprain).⁵ Non-specific LBP is second only to the common cold as a cause of self limiting symptoms and disability in the community.⁶

In 1938, it was shown that many structures in the lumbar spine, when irritated, give rise to pain with very similar distribution.⁷ In 1946, a multi-disciplinary clinic to

investigate the distribution of LBP was organized and only 17% patients out of 3000 were found to have demonstrable pathology.⁸ It is important for doctors and patients to understand that the diagnosis of LBP therefore depends on identifying some clinical syndromes on the basis of a patients history and examination with appropriate investigations to exclude serious pathology.

Delays in referral for specialist advice, delays in being seen in hospital, and delays in the provision of treatment are all likely to contribute to non-resolution of acute or sub acute back pain, increasing the pool of chronic pain patients and the risk of pain becoming intractable with the consequent suffering shared by the patients family.⁹ Low back pain has been established as a notoriously costly affliction in terms of both patient suffering and health care cost.¹⁰ The high cost associated with LBP are related to these individuals with chronic pain. For example, in the state of Tennessee in 1986, 10% of cases with Chronic LBP accounted for 57% of the total expenditures (US \$ 31.8 million) spent on work related sickness payment.¹¹

Back pain accounts for 30-50% of the rheumatic complaints and 6% of general practice consultations.¹² It is the 2nd most frequent reason for physicians visit,

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the third ranking reason for surgical procedures, the fifth most frequent cause for hospitalization. I Kumar and Clerk reported non-specific LBP in 30% of patients having L.B.P.¹³ A study performed in the department of Physical Medicine IPGM&R in the year 1992 showed that among 280 LBP Patients 36.43% was of non-specific L.B.P, but the occupational distribution was not clear in their study.¹²

The direct cost of medical care and indirect costs to society of absenteeism from work due to backache are huge.¹⁴ In the United States back problem constitute 25% of all disabling occupational injuries and cause a loss of 1400 working days per 1000 workers per year. About 12 million people have back impairment and 5 million disability.¹⁵ This includes lost earnings and productivity. Among the estimated 75-120 million annual visits to chiropractors in USA at least 50% are made because of L.B.P.⁵

Workers involved in heavy duty labour who are aged over 45 years have a 2.5 times greater risk of absence from work secondary to back pain compared to workers aged 24 years or younger.¹ Episodes of occupationally related L.B.P. are twice as common in adults over the age of 40 years.⁶ Known work factors include heavy lifting, static work postures, repetitive bending and twisting and exposure to vibrations caused by vehicles or industrial machinery.^{16,17} Those with heavy manual occupations suffer more back pain than those with sedentary occupations.¹⁸ In comparative studies among heavy industrial workers and those doing sedentary work, 15% of total absenteeism in foundry workers as compared to 4% in workers in commerce was attributed to back causes.¹⁵

Materials and Methods:

This retrospective study was carried out in the Department Physical Medicine and Rehabilitation of IPGM&R (now BSMMU), Dhaka during December 1996 to August 1997

During the first visit, a thorough history was taken from each patient with a view to obtaining maximum possible information regarding the aetiology of back pain. More emphasis was given to the history and clinical examination due to the limited investigation facilities.

All the possible necessary investigations which were

not previously done, was done to confirm or refute the diagnosis of non-specific low back pain. Investigation, viz. routine haematological examinations, routine urine and stool examinations, radiological examinations of lumbosacral spine were done in all patients. Radiological examination of pelvis including hip joints anteroposterior view, sacroiliac joints anteroposterior and oblique views were also done in those cases where there were indicated. Plain X-ray end ultrasonography of the KUB region was done only in suspected renal involvement. MRI of Lumbosacral spine were done in few cases. Other special investigations like Montaux test, blood for fasting sugar, serum calcium, serum alkaline phosphatase and acid phosphatase, serum uric acid and HLA-typing were done in few selected cases. Patients who had no apparent positive finding after relevant investigation were categorized as non specific low back pain. Statistical analysis were done in this group of patients to find out occupation distribution.

Results:

Medical records of 4548 patients were studied. Table: I. Out of these patients 1404 patients were presented with low back pain. Table: II. With all possible investigations no cause of back pain was found in 491 (34.97%) patients. Table: III. Among these 491 patients 324 (66%) were male and 167 (34%) were female. The mean age was 34.20 + 17.64 years in both sexes. Table: IV. Among the study population 23.42% patients were housewives, 17.92% Patients were students, 17.31 % patients were servicemen, 11.01% patients were cultivators, 10.79% Patients were policemen and security guard and. the rest belonged to other occupations. Table: VI.

Table-I
Distribution of LBP

Total Number of patients treated	Number of patients with LBP	Percentage
4548	1404	30.27

Table-II
Distribution of nonspecific LBP

Number of patients with LBP	Number of patients with non specific LBP	Percentage
1404	491	34.97

Table-III
Sex Distribution of patients with nonspecific LBP (n = 491)

Sex	Number of patients	Percentage
Male	324	66
Female	167	34
Total	491	100

n= number of nonspecific LBP

Table-IV
Mean age of patients with nonspecific LBP (n = 491)

Sex	Number of patients	Percentage
both sexes	324	66
female	167	34
Total	491	100

n= number of nonspecific LBP

Table-V
Age distribution of both male and female patients (n = 491)

Age (years)	No. of patients	percentage
below 20	31	6.31
21-30	170	34.62
31-40	171	34.83
41-50	53	10.79
51-60	66	11.44

Table-VI
Occupational pattern of patients (n = 491)

Occupation	Number of patients	Percentage
businessman	33	6.72
cultivators	54	11.01
laborers	25	5.01
housewives	115	23.42
Office work /service	85	17.31
policeman/ security guards	53	10.79
students	88	17.92
others	38	7.74

Discussion:

Non-specific LBP is a common problem. We studied 4548 patients who attended the department of Physical

Medicine and rehabilitation during 1st December, 1996 to 31st August, 1997. During this period 1404(30.87%) patients were presented with LBP. Among these patients 34.97% were of non-specific LBP, Jenkins studied 183 patients with low back pain, where 24% of them were of non-specific LBP¹⁵. Kumar and Clark reported non-specific LBP in 30% of patients in their series.¹³

In another study performed in the same department during 1992 where 36.43% Patients were of non-specific type of LBP. Upward trend of previous study could be due to inclusion of more male patients in their series. However, the current study is in agreement with the study performed by Kumar and Clark. Men and women are equally affected by non-specific LBP¹⁹. In the present study among 491 patients, 66% were male and 34% were female with male: female ratio 1.94: 1. Gibson et al.²⁰ studied 109 patients and found 56% male and 44% female with male: female ratio of 1.2: 1. In a large study among 12000 patients Kraus and Naglar⁸ found 48% male and 52% female where male: female ratio was 1: 1.08. The male preponderance of the current study could be due to the fact that this study performed among the hospital referred patients only and also could be due to general attitude of our female patients towards hospital which they tried to avoid. So this study does not represent the actual incidence of non-specific LBP among female patients of this country.

Current study showed that above 50 years male patients were 8.95% and female patients were 17.96% This finding comply with the reporting of Biering-Sorensen²¹ that the risk of non-specific LBP increases until the age of 50, in man it then begins to decrease but it continues to increase in female.

Analyzing Nonspecific type of LBP in the present study we find highest number of patients were housewives (23,42%). Our females as housewife doing house hold activities in down sitting and without maintaining proper positioning of the back- can explain in increased number of back pain sufferers. Current study also should that servicemen 17.31% and policemen and security guard 10.79%. Zaman MM found servicemen 19% and policemen 5.35%. The higher percentage of policemen and security guard indicates that occupations requiring prolong standing are prone to develop non-specific LBP.

Among the student community the incidence of nonspecific LBP is high. Zaman MM found 24% of the

patients were student. In the present series the student was 17.92%. The higher incidence among the student may be due to prolonged sitting in faulty posture and negative attitude to regular exercise that are the initiator of non-specific LBP. Other causes may be the fear of suspected renal or spinal disease among the students suffered from back pain.

Conclusion:

Back pain is second only to the common cold as cause of symptoms and disability. More than 90% of episodes of LBP are of mechanical origin and these episodes of occupationally related LBP are twice as common in adults over the age of 40yrs. The most risky position for the causation of back pain is with forward flexion, rotation, and with lifting a heavy load not held close to the body may be an explanation as seen the frequent cause of LBP in house wives in this study. Proper patient education and counseling of these group of patients may be worthy in the total management of LBP.

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Soft Tissue Rheumatism among the Diabetic Patients with Rheumatic Complaints

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Summary

This prospective study was undertaken during the period of 6 months from 1st June 2003 to 30th November 2003 in the department of Physical Medicine and Rehabilitation, BIRDEM and BSMMU, Dhaka. A total of 1665 diabetic patients were found. Among them, 448 patients (26.90%) were found with soft tissue rheumatism. Most of the patients were in 40-60 years age group (74.1%). Female constituted the majority (52.01%). Maximum patients were found with Adhesive capsulitis of shoulder (60.93%), then Trigger finger (10.26%), Planter fasciitis (9.59%), Lateral epicondylitis (8.25%), de-Quervains tenosynovitis (3.35%), Achilles tendinitis (3.12%), Stiff hand, Fibromyalgia, Medial epicondylitis, Bursitis, Calcific supraspinatus tendinitis, Supraspinatus tendinitis, Biceps tendinitis and Pes anserine tendinitis were found less in percentage. By this study it can be concluded that most of the diabetic patients were affected with Adhesive capsulitis of shoulder.

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Introduction

Soft tissue rheumatism refers to a group of musculoskeletal pain syndromes that result from pathology of extra-articular and extraosseous structures. These "soft tissue" structures include bursae, tendons and their synovial sheaths, entheses, muscles and fasciae.^{1,2}

Soft tissue rheumatism comprises the most common forms of rheumatic disease among the diabetic patients due to microangiopathy and autonomic neuropathy. It appears to increase with age and in most series is more common in women than in men.³

Certain factors may be of importance in precipitating attacks in susceptible individuals. Exposure to cold and damp has always been suspected as a cause of non-articular rheumatic complaints. Unaccustomed physical effort, undue fatigue, minor injuries and poor posture have also been incriminated. Any reduction in muscular

efficiency will render an individuals more prone to sprains of tendons, ligaments and extra-articular soft tissue structures.¹

In spite of much improvement of medical sciences, pathogenesis and pathology of this disease is seldom understood and management still tends to be based on pragmatism and prejudice rather than logical scientific regimens.⁴ Investigations provide very little help. So, health professionals must be expert enough to diagnose such cases clinically.

A significant number of patients with different rheumatic complaints refer from orthopaedic, neuromedicine and other out patient departments to the department of Physical Medicine & Rehabilitation BSMMU & BIRDEM for proper treatment and rehabilitation. The patients are usually managed conservatively by drugs, physical therapies (UST, MWD, SWD, Wax bath etc.), exercise, braces and activities of daily living instructions.

In this study an attempt has been made to find out the incidence and etiological pattern of soft tissue rheumatism among the diabetic patients. The information thus gathered may provide useful guidelines for proper management of the diabetic patients with soft tissue rheumatism and the sufferings of the patients can be reduced. So they may contribute themselves for the prosperity of the country.

Materials and Methods

This prospective study was conducted in the department of Physical Medicine & Rehabilitation, BIRDEM Hospital and BSMMU, Dhaka during the period of 1st June 2003 to 30th November 2003.

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Total number of 448 diabetic patients suffering from soft tissue rheumatism (non articular focal or global pain) were included in this study. Patients who have diabetes mellitus with rheumatic complaints, aged more than 20 years were included in this study. The patients were selected randomly in the department of Physical Medicine & Rehabilitation, BIRDEM & BSMMU, Dhaka.

Informed consent was taken from all patients on arrival. Clinical history was taken and all patients were examined thoroughly. Relevant investigations were done as indicated by clinical condition of the patient. The numerical data were analysed statistically by using SPSS-Win (Version-10) statistical package. The results were expressed as percentage and frequency.

Results

Soft tissue rheumatism was 26.90% among 1665 patients with rheumatic disorders. Table 1 describes distribution of soft tissue rheumatism among diabetic patients.

Table-I

Distribution of soft tissue rheumatism among diabetic patients.

Total number of patients with rheumatic disorders	Number of patients with soft tissue rheumatism	Percentage
1665	448	26.90

Table-II

Sex distribution of soft tissue rheumatism among diabetic patients (n=448).

Sex	Number of patients	Percentage
Male	215	47.99
Female	233	52.01
Total	448	100

Table-III

Age distribution of soft tissue rheumatism among diabetic patients (n=448).

Age (in years)	Number of patients	Percentage
Below 20	0	0
21-30	6	1.39
31-40	39	8.70
41-50	172	38.39
51-60	160	35.71
61-70	55	12.27
Above 70	16	3.57
Total	448	100

Table-IV

Occupational distribution of soft tissue rheumatism among diabetic patients (n=448)

Occupation	Number of patients	Percentage
House wives	224	50
Service	83	18.52
Retd. Serviceman	48	10.71
Business	48	10.71
Teacher	15	3.34
Cultivators	5	1.11
Driver	5	1.11
Doctor	3	0.70
Other	17	3.79
Total	448	100

Table-V

Distribution of specific conditions of soft tissue rheumatism among diabetic patients (n=448).

Soft tissue rheumatism	Number of patients	Percentage
Adhesive capsulitis	273	60.93
Trigger finger	46	10.26
Plantar fasciitis	43	9.59
Lateral epicondylitis	37	8.25
De Quervain's disease	15	3.35
Achillis tendonitis	14	3.12
Stiff hand	4	0.89
Fibromyalgia	4	0.89
Medical epicondylitis	3	0.67
Bursitis	2	0.45
Dupuytren's contracture	2	0.45
Calcific supraspinatus tendonitis	2	0.45
Supraspinatus tendonitis	1	0.22
Biceps tendonitis	1	0.22
Pes anserine tendonitis	1	0.22
Total	448	100

Discussion

Soft tissue rheumatism comprises the most common forms of rheumatic disease among the diabetic patients. It appears to increase with age and in most series is more common in women than men.

In our study during the period of 6 months from 1st June 2003 to 30th November 2003, a total of 1665 patients with rheumatic complaints attended the department of

Physical Medicine and Rehabilitation, BIRDEM & BSMMU, Dhaka. Among them 448 patients (26.90%) were found with soft tissue rheumatism. In a study about the pattern of rheumatic diseases among 4037 patients by Alam et al (1996)⁵ revealed that 28.34% of them presented with soft tissue rheumatism which correlates the result of our study. Bhatt et al (1993)⁶ revealed a study about patterns of rheumatic diseases in different regions of India among 11931 patients and found that 12.4% of them presented with soft tissue rheumatism. Discrepancy of the present study with the last study could be due to the fact that we include only diabetic patients and soft tissue rheumatism is more common in diabetics.

Age:

In our study most of the patients were of 41-60 years age group constituted 74.10% of the total causes. In a study in Pakistan¹⁰ it was found that most of the patients were of 31-50 years age group suffered from soft tissue rheumatism which is in favour of our study.

Sex:

In the present series both male and female patients were studied. Out of 448 patients presented with soft tissue rheumatism male were 215 (47.99%) and female were 233 (52.10%), male and female ratio was (0.92:1). In a study in the department of Physical Medicine & Rehabilitation and Rheumatology clinic, IPGM & R it was found that 1144 patients presented with soft tissue rheumatism, among them male were 651 (56.90%) and female were 439 (38.38%), male and female ratio was 1.32:1.⁵ Discrepancy of the present study with this study could be due to the fact that we include only diabetic patients and soft tissue rheumatism is more common in female patients with diabetes. Another reason may be female patients are usually obese and it is the predisposing fact of diabetes mellitus. Besides this female diabetic patients came nearer BIRDEM & BSMMU and they have to come frequent time for their diabetic control.

Occupation:

In our study out of 448 patients of soft tissue rheumatism, 224 patients were housewives (50%), 83 were service holders (18.52%), 48 were retired serviceman (10.71%), 48 were businessman (10.71%), 15 were teacher (3.34%), cultivators, doctors, drivers & others were 30

(6.71%). So most of our patients were housewives which revealed half of the total occupation. It may be due to housewives are involved daily day to day working which causes chronic friction and micro injuries in musculoskeletal soft tissues.

Patterns of soft tissue rheumatism:

In our study among 448 patients with soft tissue rheumatism maximum patients were found with adhesive capsulitis of shoulder (60.93%), then trigger finger (10.26%), plantar fasciitis (9.59%), lateral epicondylitis (8.25%), De Quervain's tenosynovitis (3.35%), Achilles tendinitis (3.12%), others (stiff hand, fibromyalgia, medial epicondylitis, bursitis, Dupuytren's contracture etc.) were 4.5%.

In a study in the department of Physical Medicine & Rehabilitation and Rheumatology Clinic, IPGM&R (1995)⁵ among 4037 patients found that non specific back pain were 45.28%, adhesive capsulitis of shoulder 35.14%, primary fibromyalgia 7.16%, tendinitis/tenosynovitis 6.03%, planter fasciitis 3.14%, tennis elbow 2.70% and reflex sympathetic dystrophy 0.52%. In the last study adhesive capsulitis of the shoulder was the commonest (35.14%) of specific disorders included in soft tissue rheumatism which correlates with our study. Discrepancy of last study with our study may be due to the fact that we include only diabetic patients and soft tissue rheumatism is most common from rheumatic disease among diabetic patients. Another cause may be due to microangiopathy and autonomic neuropathy that occurs in diabetic patients. Besides this another cause of more adhesive capsulitis of shoulder and other soft tissue rheumatism in diabetic patients may be the advanced glycation end products as a result of nonenzymatic reaction of glucose with proteins causing stiffening.³

In another study⁹ by Adelowo-O-O it was found that soft tissue rheumatism among Nigerians most of the subjects had adhesive capsulitis of shoulder commonly associated with diabetes mellitus. This finding also favours the results of our study.

Ian. Haslick⁴ stated that shoulder capsulitis is common with a maximum prevalence of 27% in men and 20% women who are 56-60 years of age. This also supports our study.

Conclusion:

Soft tissue rheumatism is the most common form of rheumatic disease among the diabetic patients. It appears to increase with age and more common in women than men. House wives doing multi jobs constitute the frequent sufferers. Strict control of diabetes, adequate rest, proper working environment along with supervised activities of daily living can be advocated to prevent and manage this common disorder.

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Pain in Women

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Back ground and Introduction:

Every day millions of women around the world suffer from chronic pain but many remain untreated. Several reasons may explain why barriers to treatment still exist. Psychosocial factors, such as gender roles, pain coping strategies and mood may influence how pain is perceived and communicated. In addition, there may be a lack of acceptance or understanding of the biological differences between men and women that may impact how pain is perceived. These psychosocial and biological factors, coupled with the economic and political barriers that still exist in many countries, have left millions of women living in pain without proper treatment.

Chronic pain affects a higher proportion of women than men around the world, but unfortunately women are also less likely to receive treatment compared to men. International Association for the study of pain (IASP) announced launching the 'Real Women, Real Pain' campaign as "global Year against pain" to draw attention to the significant impact of chronic pain on women¹. Through this campaign, IASP expects to provide a voice to these women by drawing attention to this global issue as a first step towards reducing pain and suffering for women around the world.

Women generally report experiencing more recurrent pain, more severe pain and longer lasting pain than men². Changes in sex hormones have been found to moderate pain. Many of the observed gender differences in pain prevalence (i.e. headache, abdominal and visceral pain) appear to reduce beyond the reproductive years. Sex differences in pain can vary across different cultures as well.^{3,4}

There appears sex differences in analgesia and there are sex differences in the side effects associated with drugs, including analgesics with sex differences in nonpharmacological chronic pain treatments have also been found.⁵

Many people are unaware that certain pain conditions are more prevalent in women than in men. For example, fibromyalgia is significantly more prevalent in women (80-90% of diagnosed cases are women).⁶ Other conditions that disproportionately affect women include irritable bowel syndrome (IBS), rheumatoid arthritis, osteoarthritis, temporomandibular joint disorder (TMJ), chronic pelvic pain and migraine headache.

Several reviews have demonstrated that women respond to noxious and potentially noxious stimuli with greater pain experience than men^{7,8}. In particular, women tend to have reduced pain threshold compared to men women respond with pain to lower intensity stimuli than men. In addition, there are numerous pain conditions that show a bias towards women: Berkley listed 38 clinical pain disorders as having a female prevalence but only 15 having a male prevalence and 24 having no sex prevalence⁹. It is tempting, therefore, to suggest that women have a biological profile that predisposes them to experience pain at lower stimulus intensities and thus also suffer a disproportionate amount of clinical pain.

An attempt will be made to high light the pain issues in female and we expect this article will be able to raise awareness of pain conditions affecting women as well as highlighting disparities between men/women with regard to symptom presentation and access to treatment. These activities will also serve to encourage female-specific research and development of effective treatment options for women. Together, we can help reduce the pain and suffering of women worldwide.

Pain in women in developing countries

The prevalence of most types of pain may be much higher in developing countries than in developed countries for a variety of reasons such as very limited resources, poverty, ignorance and poor healthcare systems, policies and priorities. Women in the

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developing world are more likely to suffer pain and are also less likely to be adequately treated than their male counterparts because of societal norms, culture, and governmental policies^{10,11}. There are some painful conditions which by nature occur only in women, such as menstrual pain, pain during pregnancy and childbirth, cancers of the female genital system, female genital mutilation and sexual violence and abuse. Typically, the range of diagnostic and treatment options is very limited.

People in developing countries commonly suffer a 'double burden' of both communicable and noncommunicable diseases that significantly contributes to a high prevalence and burden of pain and suffering. The burden of disease from cancer of the cervix is substantial, in contrast to the developed world where it has become uncommon. Supplies of opioids for those with cancer pain are often problematic owing to restrictive legislation and unfounded anxieties on the part of professionals regarding the risk of addiction. Maternal mortality rates are highest in the developing world accounting for 99% of all maternal deaths worldwide and with approximately half a million women still dying from (mostly preventable) pregnancy and childbirth related causes¹². Pain management in women in developing countries is seen as a very low priority. It would therefore be valuable if it became more universally recognized how good pain management can improve a country's economy. We need to urgently address and eliminate this gender disparity in healthcare by empowering women so that they can protect and enhance their health and quality of life.

Chronic Pelvic Pain

Chronic pelvic pain (CPP) is defined (by Robert C Reiter & Allison Millburn) as a pain localized to the lower abdomen and pelvis of greater than three months duration for which a thorough evaluation, including laparoscopy is essentially normal. It is a common condition affecting 12-33% of general population^{13,14}. It can be associated with significant morbidity and loss of physical and sexual functioning. Patients are distressed by their continuing symptoms, by extensive and repeated investigations and often by the inability of the medical profession to diagnose and treat them effectively.

Chronic pelvic pain can be caused by gynecological (both cyclic and non cyclic) conditions, such as

endometriosis, adhesions, infection or rarely by tumor, and by nongynecological causes which can be bowel related, such as irritable bowel syndrome (IBS), or bladder related, or musculoskeletal or neuropathic. Often the cause is obscure. At times multiple pelvic organs can be involved. Three types of visceral hyperalgesia which may be relevant to the clinical presentation of patients with pelvic pain are described¹⁵

a) hyperalgesia of a viscus from inflammation and / or excess stimulation of the same viscera e.g. irritable bowel syndrome, b) hyperalgesia of somatic tissues in the area of referred pain from viscera, e.g. trigger points in body wall tissues and c) Viscerovisceral hyperalgesia: hyperalgesia of a viscus rendered clinically manifest by a painful condition of another viscera e.g. exacerbation of urinary colic pain in patients with urinary calculus plus dysmenorrhea.

Assessment of women with chronic pelvic pain requires a systematic and comprehensive approach. General examination, vaginal examination and careful lab examinations including transvaginal ultrasound scanning, laparoscopy and MRI scanning are the commonest investigations performed.

Treatment has traditionally focused on identifying pathology and utilizing medical, hormonal and surgical interventions to alleviate the pain. Hormonal therapy and surgery can help some patients with pelvic pain, adenomyosis and endometriosis, but unfortunately not all. Core stability exercises and pelvic floor musculature rehabilitation can be beneficial. Drugs used for neuropathic pain have been shown to reduce pelvic pain in a small group of patients unresponsive to weak opioids¹⁶.

Pain during Pregnancy

Pain is common in pregnancy. Approximately 25-56% of pregnant women suffer some lumbopelvic or peripartum pelvic pain. Approximately 8% of these pregnant women become severely disabled with this condition, which may require admission into hospital¹⁷. Pain within the pregnant population is a neglected condition of substantial public health impact¹⁸. When pain is poorly controlled there can be adverse psychological effects¹⁹, which may cause antenatal, as well as postnatal, depression. Poorly controlled pain may increase the mother's risk of prolonged time in bed

resulting in immobility. This can lead to problems such as deep vein thrombosis and pulmonary embolism.

There is a lack of any standard definitions. Terms used include: pregnancy related pelvic girdle pain and pregnancy related low back pain. Symphysis pubis dysfunction is a term also used, but some consider that such dysfunction is more often a secondary problem coexisting with lumbar or sacroiliac pain. In a study of 870 women referred to physical Medicine consultation for pain during pregnancy, over 76% of their women complained of pain over the sacroiliac joints and 57% complained of pubic symphysis pain²⁰. The main factors are probably mechanical, due to the alteration in posture required to carry the increasing mass in the abdomen, and hormonal, through changes in the pelvic ligaments. The hormone responsible is unclear. Although relaxin acts on human uterine tissue by regulating the expression of metalloproteinases in the matrix, it does not seem to generate musculoskeletal pain problems.

Goals of treatment would be firstly to use nonpharmacological techniques, as it is important to understand that the fetus is a passive recipient of any medications that may be administered.

Nonpharmacological techniques include education, advice and exercise prescribed and supervised by a physiatrist. In addition transeutaneous electrical nerve stimulation (TENS), heat or cold packs, local infiltration with local anaesthetic and steroid and physiotherapy can be used with good success^{21, 22}. Stabilizing exercises, stretching exercises of specific muscles and massage can all contribute to the reduction of pain in pregnancy by breaking the cycle of pain due to poor posture, increasing lordosis, muscle spasm and increasing immobility²³⁻²⁵. The use of aids such as crutches, walking frames, supportive pillows with positioning while sitting and lying, pelvic belts and the use of sacroiliac support belts can increase mobilization and reduce the risks associated with prolonged bed rest and inactivity such as clot formation and muscular deconditioning. The addition of psychological therapies such as self-hypnosis and counseling may be beneficial.

The efficacy of analgesics has not yet been established fully (20, 21) and one of the major times of concern for the use of medications in pregnancy is during the vulnerable period of organogenesis, (weeks 4 –

10). Ensuring there is multidisciplinary team support and involvement is vital to the success of treatment²⁶

Obstetric Pain

Pain related to childbirth may present during pregnancy, during labor when more than 95% of women report pain of varying intensity, occasionally during Caesarean section (CS) if there is a poor quality nerve block or prolonged surgery and after delivery when more than 70% of mothers report acute or chronic pain. Major determinants of pain intensity are: Parity, Back pain in pregnancy, Antenatal preparation, and Upright posture during labor. Abdominal pain is a frequent symptom in women after vaginal delivery, has a temporal relation with uterine contractions and significantly increases in severity with parity and with the duration of the uterine contraction^{27, 28}.

There are evidence based reports²⁹⁻³¹ on certain factors that may influence pain in labor: (a) Continuous support from a partner or caregiver (b) Water immersion during labor (c) Complementary and alternative therapies such as self hypnosis and acupuncture (d) Epidural analgesia (e) Adoption of the upright position in the second stage of labor; all these can decrease the amount of pain during labor.

Dysmenorrhea

Dysmenorrhea (painful periods) affects 40-90% of women³². It is traditionally classified as either primary dysmenorrhea – menstrual pain without pelvic pathology, with onset shortly after menarche, or secondary dysmenorrhea pain associated with secondary pathology, and the onset may be years after menarche. Premenstrual syndrome (PMS) is defined as cyclical mood and behavioral changes occurring during 5 days prior to menses. Premenstrual dysphoric disorder (PMDD) is the presence of severe affective symptoms during the luteal phase of the menstrual cycle, which may encompass depression, anxiety, concentration difficulties, appetite changes, and sleep changes that interfere with functioning in work, family, and social settings^{33,34}.

A low BMI is associated with increased risk of primary dysmenorrhea and a negative association has been described between consumption of fruit, eggs, and fish and primary dysmenorrhea, perhaps related to intake of omega3 fatty acids, calcium, and magnesium³⁵.

Psychosocial determinants are also important, as poor mental health, somatoform symptoms, decreased coping ability, depression, and anxiety have been found to be strong determinants of dysmenorrhea. Secondary dysmenorrhea presents in association with endometriosis, presence of an IUD, pelvic inflammatory disease, adenomyosis, uterine myomas and adhesions, or cervical obstruction from mullerian anomalies³⁶.

The exact etiology is unclear, but may reflect upregulated cyclooxygenase (COX) enzyme activity and prostanoïd synthase activity, which are normally activated in the late luteal phase through release of progesterone inhibition of arachidonic acid production.

Treatment includes conservative measures such as NSAIDs are used as first line therapy, ideally initiated prior to the onset of menses by 48 hours to decrease COX substrate. Vitamin and mineral supplementation may also be effective based on small studies.

Local nerve stimulation (TENS, hot compresses, acupuncture) has also been shown to be effective. Combined oral contraceptives are often employed to inhibit ovulation and suppress endometrial growth. In more severe cases, short courses of opioids should be considered.

Fibromyalgia Syndrome (FMS)

Fibromyalgia Syndrome is defined as a common rheumatologic syndrome characterized by chronic, generalized musculoskeletal pain and tenderness with a number of associated symptoms among which sleep disturbance and affective dysfunction are particularly frequent. It affects 2% of the general population³⁷. Its gender distribution is nearly equal in childhood, but is up to sevenfold more common in females than males in adult age. Pathophysiology of FMS is not completely clarified; a number of neuroendocrine, neurotransmitter and neurosensory disturbances have been implicated in its generation. Exposure of a genetically predisposed individual to a variety of environmental stressors is supposed to lead to the development of FMS^{38,39}.

Criteria for FMS diagnosis are those established by the American College of Rheumatology (ACR) 1990, i.e.: 1. A history of widespread pain (involving all 4 limbs and the trunk) of at least 3 months duration and 2. Tenderness to digital palpation (with a pressure of 4 kg) in at least 11 of 18 (9 symmetrical) predetermined body districts

called tender points (TePs)⁴⁰⁻⁴²

FMS does not threaten the patients' life but can cause severe disability and thus substantially compromise the quality of life. Complete resolution of symptoms is almost never achieved, but significant improvement can be obtained with adequate therapy. This include multimodal approach a) accepting attitude from both physician and patient, b) comprehensive clinical evaluation with accurate diagnosis, c) education for affected individuals, family and society, d) encourage patient to take an active role in selfcare e) psychological or psychiatric support with biofeedback training, f) physical modalities with, exercise program (endurance, aerobic and stretching), g) sparing use of medications proven to be effective (low dose tricyclic antidepressants or serotonin reuptake inhibitors, sedative, hypnotic medication, analgesics (tramadol), antiepileptics (gabapentin, pregabalin), h) regular monitoring and follow-up⁴³.

Irritable Bowel Syndrome (IBS)

Irritable Bowel Syndrome is a chronic episodic medical condition characterized by abdominal pain or discomfort and altered bowel habits in the absence of detectable organic disease⁴⁴. It may present with diarrhea and/or constipation, thus it is often subgrouped according to stool form: diarrheapredominant IBS (IBSD), constipationpredominant IBS (IBSC), IBSM (mixed diarrhea and constipation), and IBSA (alternating diarrhea and constipation)^{45,46}. It is part of the spectrum of Functional Gastrointestinal (GI) Disorders and has a large impact on quality of life (QOL) with consequent high direct and indirect healthcare costs⁴⁷

IBS diagnosis is made with using Rome III criteria i.e.: Recurrent abdominal pain or discomfort of at least 3 days/month in the last 3 months associated with 2 or more: Improvement with defecation and Onset associated with a change in frequency of stool and Onset associated with a change of form (appearance of stool) Criteria fulfilled for the last 3 months with symptom onset at least 6 months prior to diagnosis. Alarm symptoms (e.g., weight loss, fever, rectal bleeding, steatorrhea, lactose/gluten intolerance) suggest the possibility of structural disease, such as colon cancer, inflammatory bowel disease, malabsorption disorders (e.g., celiac sprue) but do not necessarily negate a diagnosis of IBS^{49:50}.

IBS typically lasts for the entire life of the patient, though a mild control of the symptoms can be achieved through treatment. Treatment involves: dietary factors (careful analysis of potential food triggers)~ traditional pharmacologic therapy (including bulking agents, antispasmodics, tricyclic antidepressants and other psychotropic agents, and laxatives), serotonergic agents [5HT₃ receptor antagonists, 5HT₄ receptor agonists, combination 5HT₄ agonist and 5HT₃ antagonist]~ antidepressants~ behavioral and psychological therapy⁵¹.

Other common problems attributing pain in women

Other pains include dyspareunia, dyschesia (bowel pain), and chronic pelvic pain (pain generally internally or in muscles of the abdomen, pelvic area and lower back)^{52,53}. Vulvodynia is a chronic pain syndrome of the vulvar area in the absence of an infectious, dermatological, metabolic, autoimmune or neoplastic process. In 1976 the International Society for the Study of Vulvovaginal Disease (ISSVD) identified idiopathic vulvar pain as a unique entity and subsequently coined the term vulvodynia^{54,55}. Vulvodynia affects women in the age group between 18 and 25yrs and its diagnosis depends on exclusion of other conditions^{56,57}. Thus, a multidimensional and multidisciplinary approach is recommended for diagnosis and treatment. Currently there is no cure for vulvodynia, although some patients experience spontaneous remission. Other recommendations include elimination of local irritants and potential allergens, treatment of neuropathic pain management and vaginal biofeedback and cognitive behavioral therapy⁵⁸.

Pain due to violence against women (Genderbased violence):The United Nations defines violence against women, also known as genderbased violence, as 'any act that results in, or is likely to result in physical, sexual or psychological harm or suffering to women, including threats of such acts, coercion or arbitrary deprivations of liberty, whether occurring in public or private life'⁵⁹. Violence against women is usually both a cause and consequence of discrimination against women. Violence against women is a major health problem as well as a violation of women's human rights. It is prevalent worldwide with farreaching health, economic and social ramifications and is rooted in gender inequality⁶⁰. It is a major contributor to illness, death, pain, suffering,

social isolation, loss of employment and productivity and restriction of freedom. Violence against women is of various types and can take place in a variety of settings including the family, the community, state custody, and armed conflict. The most common form of physical violence experienced by women worldwide is physical violence by an intimate partner, otherwise called domestic violence. Forced or coerced sex or rape is an example of violence. Violence is an important factor in the transmission of sexually transmitted diseases including HIV, unintended pregnancies and often unsafe abortions.

Discriminatory social harmful practices include sex selective abortions, female infanticide, female genital mutilation/cutting, neglect of the girl child, early and forced marriage, wife inheritance, violence and discrimination against widows, dowryrelated violence, prostitution, and human trafficking mainly for sex exploitation. There are established international laws and policies in place to address and tackle this major public health and human right issue, but the fact that the problem persists indicates that the laws and legislation, if and where they do exist, are not being effectively implemented.

Conclusion

Barriers that interfere with pain management by clinicians are lack of knowledge about pain management and access to pain specialists, reluctance to prescribe opioids, concern about drug addiction or abuse, lack of psychological support and drug treatment services. Clinical management is based on research, knowledge and education on clinical management of pain in women is required. There must be a demonstration of political commitment and availability of adequate resources to provide these necessary services. Gender based violence can only be eradicated by addressing gender discrimination and promoting women's equality and empowerment. Legislation must criminalize all forms of violence against women and must be properly and effectively implemented. Nevertheless, one can remain optimistic, because considerable basic and clinical research is underway to develop a better understanding of the signs and symptoms and to develop more effective approaches for their treatment. There are established international laws and policies in place to address and tackle this major public health and human right

issue⁶²(13), but the fact that the problem persists indicates that the laws and legislation, if and where they do exist, are not being effectively implemented. To effectively curb this menace, a multisectoral approach, involving the health, legal and social services, must be adopted.

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Use of Introducer and Whitacre needle for Spinal Anaesthesia in Elderly Patients with Ossified Intervertebral Ligaments

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Abstract:

Spinal Anaesthesia is quite popular now – a- days for elderly patient in order to avoid the 'general anaesthesia induced' respiratory complications. There are, however, difficulties in insertion of spinal needle due to ossification of vertebral ligaments. Two patients- one 70 yr old man were scheduled for endoscopic prostatic surgery and another 62 yr old lady scheduled for Open reduction and internal fixation in right neck of femur fracture under Spinal Anaesthesia. We faced difficulties during insertion of Quincke spinal needle for both patients due to ossification of interspinous ligament & ligamentum flavum. On both occasions the Quincke needles got bent necessitating a second approach with Whitacre needles. Usual recommendation is to adopt a Para median approach but as the failure rate with that approach as compared to midline is more a Whitacre with introducer was used. This seemed to overcome the difficulties in both cases. It was felt that for median approach in cases with ossification of supraspinous and interspinous ligament introducer aided Whitacre needle has better chance of success causing less incidence of PDPH.

Keywords: Spinal Anaesthesia, ossification of ligaments, spinal needles

(Pain Journal 2006; 2: 23-25)

Introduction:

The first spinal analgesia was administered in 1885 by Leonard Corning (1855-1923)¹. The first planned spinal anesthesia for surgery in man was administered by August Bier (1861-1949) on 16th August 1898². Spinal anaesthesia is a major form of regional anaesthesia. It is used for surgery of the lower part of the body & also when a general anaesthesia is considered more risky, such as in older people or those with cardiac and respiratory compromise. But spinal anaesthesia itself has some disadvantages such as difficulty in spinal needle insertion, needle bending— even breaking etc. The structures that the needle will pierce before reaching the CSF are skin, supraspinal ligament, interspinous ligament, ligamentum flavum & dura. We have different types of spinal needle Whitacre 1951, Quincke 1985, Sprotte 1087 etc. Sometimes difficulties felt during spinal in elderly because they cannot bend very much or have heavily calcified supraspinous and interspinous ligaments³ & ligamentum flavum⁴. It might be

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overcome by a paramedian attempt to reach dura as ligamentum flavum is found to be less stiff than other ones. Here we used Whitacre spinal needle with a 35 mm long introducer as an alternative approach.

Case Report:

Case report-1:

A 70 yr old man scheduled for TURP, presented with history of hypertension and Bronchial asthma during preanaesthesia check was selected for spinal anaesthesia. He weighed 65 kg with a height of 158 cm. His associated medical conditions were well controlled with medication.

Case report-2:

A 62 yr old lady was scheduled for open reduction and internal fixation for fracture of neck of right femur. On pre-anaesthesia check up patient was found to be of 54 kg BW and 152 cm height. Co morbid conditions were; well controlled Diabetes Mellitus, Hypertension, She suffered from CRF, IHD and had a history of old TB. Patient was accepted for the surgery under spinal anaesthesia.

Procedure:

Following were done to both the patients as part of the routine procedure.

On the operating table all monitors were connected for monitoring vital functions. IV channels were set with 18G cannula in both the cases. After 200 ml NS preloading patient was positioned in sitting (case-1) and lateral (case-2) position. With usual aseptic preparation we proceeded for spinal anaesthesia using 25G Quincke spinal needle at L3/4 intravertebral space after local infiltration to skin. This had been the standard approach unless indicated otherwise. But needle did not proceed and failed to pierce interspinous ligament after negotiating supraspinous with considerable difficulty in both the cases. Exerting more pressure caused the needle to bend making it unfit for further use. On both occasions we changed to Whitacre spinal needle (Pencan, B. Braun) end port, size 0.53x88mm / 25G 3 1/2" with introducer 0.9x35mm / 20G 1 1/2". First insertion of the introducer was inserted through ossified interspinous ligament up to 3 cm then the spinal needles needed to go another 1 1/2 cm for the case-1 & 1/2 cm for case-2 before puncturing the dura with a fair ease and CSF drained freely. We use 0.5% Bupivacaine (heavy) 2.5ml + Fentanyl 25 mcg. The duration of surgery for case-1 was 90 min & case-2 was 180 min. Case-2 required supplemental sedation with Midazolam 2mg once. Perioperative haemodynamics were stable. Postoperatively case-1 was shifted to recovery ward & case-2 was shifted to HDU. Postoperative analgesia was maintained with intravenous Tramadol. Patients were reviewed on first postoperative day & had no complaint of back pain.

Discussion:

Anatomic changes associated with aging cause more difficulty in performing spinal anaesthesia⁵. These changes include the loss of vertebral height, narrowing of the intervertebral disc spaces, the presence of osteophytes and ossification of intra vertebral ligaments as well as ligamentum flavum. Additionally, locating the subarachnoid space may be more difficult because of the reduced ability to flex the lumbar area associated with aging⁶. Therefore researchers⁵ agreed that spinal anaesthesia is slightly more difficult to accomplish in the elderly as found a higher incidence of more than one approach as well as more than one spinal needle being used in the elderly than in the younger age group.

Despite perceived difficulties, spinal anaesthesia has specific advantages that may favor its use in the elderly as it may offer some protection against ischaemia in patients with previous myocardial infarction⁷, and the incidence of postoperative pulmonary complication, confusion, deep venous thrombosis, and blood loss might be decreased. Thus, subarachnoid block might be the preferred anaesthetic technique for many surgical procedures in elderly patients.

For a successful spinal puncture an ideal spinal needle should be used with high success rate of dural puncture and low incidence of post dural puncture headache. But currently no ideal needle is available. All types of needle have some disadvantages. A recent Meta analysis study concluded that a non cutting needle should be used with the smallest gauge available⁸. But due to calcified intraspinal ligament and ligamentum flavum in elderly people there are more chances of needle bending, even breaking also. Recently certain fine gauge needle bending has been reported⁹. Site of bending is either at the level of shaft or the tip. In quincke needle usually shaft bending occurs. In our cases Quincke needle caused shaft bending possibly due to calcified supraspinous and interspinous ligaments. Ligamentum flavum in both the cases did not pose a problem with Whitacre as far as piercing was concerned.

To overcome the resistance encountered we used 20 G introducer that came with Whitacre needle package instead of 25 G quincke needle by itself. This introducer is 35 mm long. So it can easily cross the tough intraspinal ligament and ligamentum flavum in most of the elderly people. In our cases 30 mm introduction was necessary in both as a relative ease were observed after that. Through this introducer pencil point Whitacre needle were introduced which had been found to reduce the incidence of post dural puncture headache⁸. The incidence of PDPH with 25 G pencil point needle ranges between 0 and 4.3¹⁰.

In elderly patient Whitacre needle with introducer may be an alternative for spinal anaesthesia, though Hershan and Rosner¹¹ reported broken small gauge spinal needle with Whitacre spinal needle with introducer. But their advice should be kept in mind that all spinal needles should be completely withdrawn into the introducer before a change of direction is made.

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Awake Craniotomy – First Time in Bangladesh and An Anaesthetic Challenge - Case Report

RK KUNDU

Summary:

A 26- year old man known to have low grade glioma in the left supplementary motor area of brain was admitted in Square Hospital, Dhaka. By applying the asleep-awake-asleep technique with scalp nerves block with local anaesthetics, excision of tumour was done with awake craniotomy procedure that is the first time in Bangladesh. Tumour excision was done by cortical mapping to avoid normal neuronal tissue damage. Haemodynamic was stable, patient sat on the table at the end of operation, smiled to everyone and discharged from hospital after two days.

(Pain Journal 2006; 2: 26-28)

Introduction:

Awake craniotomy has been routinely performed for resection of epileptogenic foci for many years.⁽¹⁾ It is now also used for the resection of tumours located in the eloquent cortex. This includes the motor strip and Broca's speech area (dominant hemisphere), both in the frontal lobe, and Wernicke's speech area (dominant hemisphere) in the temporal lobe. Basic principle in keeping the patient awake during surgery is to prevent damage during surgery, to functionally important areas of the brain by performing cortical mapping, which requires patient to be awake to test his speech and to watch his movements. Varying anaesthetic techniques for awake craniotomy have been described in the literature.⁽²⁻⁷⁾ However, the challenge for the anaesthetist is to find a technique which provides adequate sedation, analgesia, and respiratory and haemodynamic control, but also an awake and cooperative patient for neurological testing.

Case report:

A young boy of 26- years old admitted at Square hospital, Dhaka with complains of episodic loss of consciousness over the last two months that begins with a speech arrest and weakness of his left limbs. On physical examination, patient was apparently no cardio-respiratory abnormalities even no neurological deficit. Laboratory findings of complete blood count (CBC), serum creatinine, blood sugar, prothombin time, INR, aPTT and electrolytes were within normal limit. ECG finding was also normal. His MRI of brain showed a tumour in the left supplementary motor area about

3x3.5x4 cm in size suggestive of a low grade glioma. Surgeon decided to excise the tumour by awake craniotomy and then discussed with patient about the disease, plan of operation and anaesthesia, risk and benefit of surgery and also discussed with anaesthesiologist. Anaesthesiologist preoperatively visited the patient and briefly discusses the anaesthetic technique, risk-benefit of anaesthesia and surgery, assessed for psychological and mental status and reassured patient that he would not have any pain or discomfort. Finally patient was motivated for awake craniotomy. Tab. Midazolam- 7.5 mg was prescribed at night before operation to avoid anxiety.

Anaesthetic procedure was to scalp nerves block with 1% lignocaine and 0.25% bupivacaine mixture within safe dose and supplemented by asleep-awake-asleep technique with fentanyl (0.5-1mgm/kg) and propofol (1-2mg/kg). Local anaesthetic was infiltrated bilaterally to block supratrochlear and supraorbital nerves (2ml above eyebrow), auriculotemporal and zygomaticotemporal nerve (5 ml 1.5 cm anterior to tragus of ear), post auricular branches of greater auricular nerve (2 ml posterior to ear at tragus level) and greater, lesser and third occipital nerves (5 ml along superior nuchal line halfway between occipital protuberance and mastoid process). Surgeon also infiltrated 1% lignocaine with adrenaline (1:200,000) along the incision line of scalp and dura. Only one large peripheral intravenous cannula (18G) was inserted. Monitoring includes ECG, non-invasive blood pressure and pulse oxymetry. Central venous catheter, invasive arterial cannula and urinary catheter were avoided to minimise trauma and irritation to the patient. Patient was provided with supplemental oxygen through nasal airway. Antibiotics (ceftraxon -1gm), antiemetics

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(ondensatron - 4 mg), anticonvulsant (phenytoin – 200 mg) and steroids (dexamethason -5mg) were given at the start of surgery. Draping was done in such a way to maintain eye to eye contact with the patient. A resident medical officer (neurosurgery) performed continuous neurological examinations on the patient while the tumour was being removed by testing the patient's ability to identify pictures in a book, carry out a conversation, count numbers and move his limbs. The patient experienced no problems during the operation and the tumour was excised. The patient was quite comfortable during surgery that lasted ninety (90) minutes. He sat up on the operation table and smiled at everyone after the wound dressing was applied. All equipments and drugs for GA were kept ready if it required. Postoperatively patient was monitored in the neuro intensive care unit to observe for any neurological deterioration due to cerebral edema, intracranial hemorrhage and seizures. By the evening of the surgery he was walking about and was ready for discharge after two days.

Discussion:

In many ways, the modern era of awake craniotomies began more than 50 years ago when Wilder Penfield and André Pasquet published their landmark paper on the surgical and anesthetic aspects of surgery after administration of local and intermittent sedation and analgesia.^[8] Many of the concepts they outlined remain relevant today. An awake craniotomy is an amazing procedure, which seems almost unbelievable at first thought. The procedure is very similar to a standard craniotomy but with one difference - the patient is fully awake during the middle of the procedure.

Although awake craniotomy for epilepsy surgery is well established, awake craniotomy for tumour surgery has become popular more recently which are close to eloquent (important), i.e. motor and speech areas of the brain. Basic principle in keeping the patient awake during surgery is to prevent damage during surgery, to functionally important areas of the brain by performing cortical mapping, which requires patient to be awake to enable continuous testing of language and motor function of limbs while the tumour is being removed. The moment the patient experiences early problems in either of these domains the surgeon can stop the excision thus preventing devastating permanent deficits. On the

other hand, if the patient is operated upon under general anaesthesia there is a risk of damaging functioning brain around the tumour that would only be realized after the surgery when the patient wakes up with inability to speak with or without paralysis of the limbs.

By keeping the patient awake also minimises the interference of anaesthetic drugs on recordings of electrocorticography (ECOG), which is done to identify the epileptogenic foci in the brain.⁽⁹⁾ It presents a unique challenge for the attending anaesthesiologist to provide suitable conditions by keeping the patient calm and cooperative, without jeopardising his safe and comfortable intra-operative journey during awake craniotomy. Successful procedure demands pre-operative assessment and proper selection of the patients, effective local anaesthetic (scalp nerve block) blockade and properly monitored sedation. Proper teamwork, patience and pleasant operating room (OT) atmosphere are the other prerequisites for awake craniotomy.

First awake craniotomy in Bangladesh was performed on 24th November, 2007 at Square Hospital, Dhaka in a 26-year-old male patient diagnosed as a case of low grade glioma in left supplementary motor area which was 3x3.5x4 cm in size. On preoperative visit, after taking detailed history, the patient was assessed for psychological and mental status to undergo awake craniotomy. Patient was explained about the need to carry out surgery, while he is awake to establish a relationship of confidence and trust between the patient and the doctors operating on him.

Bilaterally scalp nerves were blocked with 1% lignocaine and 0.25% bupivacaine mixture with maximum safe dose and supplemented by asleep-awake-asleep technique with fentanyl (0.5-1mgm/kg) and propofol (1-2mg/kg). Surgeon also infiltrated 1% lignocaine with adrenaline (1:200,000) along the incision line of scalp and dura. Monitoring includes ECG, non-invasive blood pressure and pulse oxymetry. Patient was provided with supplemental oxygen through nasal airway. Central venous catheter, invasive arterial cannula and urinary catheter were not inserted as it causes irritation to the patient and might become the cause for his restlessness. Antibiotics, antiemetics and steroids were given at the start of surgery. Continuous neurological examinations was done on the patient during tumour resection by testing the patient's ability

to identify pictures in a book, carry out a conversation, count numbers and move his limbs. Patient felt although no discomfort and haemodynamic was stable. Surgery time took 90 minutes out of total procedure 150 minutes. At the end of surgery patient sat on the table and smiled at everyone.

Conclusion:

With availability of the newer anaesthetic drugs, improved microsurgical techniques and proper selection of the patients, it should not be difficult to perform awake craniotomy procedure which results in less morbidity, mortality and short hospital stay as compared to general anaesthesia, in patients having epileptogenic foci and other lesions which are close to eloquent i.e. motor and speech areas of the brain.

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- March 20, 2007, BIRDEM Hospital, Dhaka. Topic: Labor Analgesia.
- March 30, 2007, Jamuna Resort. BSSP Annual Conference and General Meeting.
- August 20, 2007, Rangpur Medical College, Rangpur. Topic: Concept of Multidisciplinary Pain Clinic.
- October 13, 2007, Institute of Traumatology, Orthopedics and Rehabilitation. Multidisciplinary Pain Clinic in Orthopedic Setup.
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INTERNATIONAL NEWS

(Pain Journal 2006; 2: 30)

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2008 Annual Scientific Meeting of the British Pain Society. Info: British Pain Society, Third Floor, Churchill House, 35 Red Lion Square, London WC1R 4SG, United Kingdom (Tel: 44-020-7269-7840; Fax: 44-020-7831-0859;

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8th Annual Scientific Meeting of the Iranian Pain Society. Info: Dr. Hossein Nayebahaie and Dr. Mohammad Sharify, Iranian Pain Society, PO Box I4875-185, Tehran, Iran (Fax: 98-21-4406-9051;

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Tampa, Florida, USA

27th Annual Scientific Meeting of the American Pain Society. Info: American Pain Society, 4700 W. Lake Avenue, Glenview, IL 60025-1485, USA (Tel: 847-375-4715; Fax: 877-734-8758 (USA toll-free) or 732-460-7318 (international);

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Annual Meeting of the Scandinavian Association for the Study of Pain. Info: SASP, Saru Jaaskelainen, Dept. of Clinical Neurophysiology, Aabo University Hospital (Email: sa.jaaskelainen@tyks.fi)

May 27-30, 2008

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28th Annual Meeting of the Canadian Pain Society. Info: Canadian Pain Society, 701 Rossland Rd. E. #373,

Whitby, ON Canada, L1N 9K3

(Tel: 905-668-9545; (Fax: 905-668-3728;

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Gerona, Spain

VIII Nacional Congreso of the Sociedad Espanola Del Dolor. Info: Mar Servicios y Congresos, SL, C/ Juan Ramon Jimenez 35, puerta 25, 46006, Valencia, Spain (Tel: 96 335 50 49; Fax: 96 374 15 64;

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4th National Bulgarian Conference of Pain, 2008 Annual Meeting of the Bulgarian Association for the Study and Treatment of Pain. Info: Prof. Ivan Smilov, President, BASTP, c/o Mrs. K. Christova, Secretary, BASTP, I.G. Sofijski Str., Sofia 1431, Bulgaria

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8th Congresso Brasileiro de Dor, 2008 Annual Meeting of the Sociedade Brasileira de Estudo da Dor (SBED). Info: Rua T-50, n 1473, Quadra 68, Lote 1, Setor Bueno, Goiania, Goias - CEP 74215-200, Brazil

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Bangladesh Society for Study of Pain

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Campbell S, Salamone L, Ieman, P, et al. Phantom tooth pain. *Reg Anesth Pain Med.* 1999; 24: 75-80. For books
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