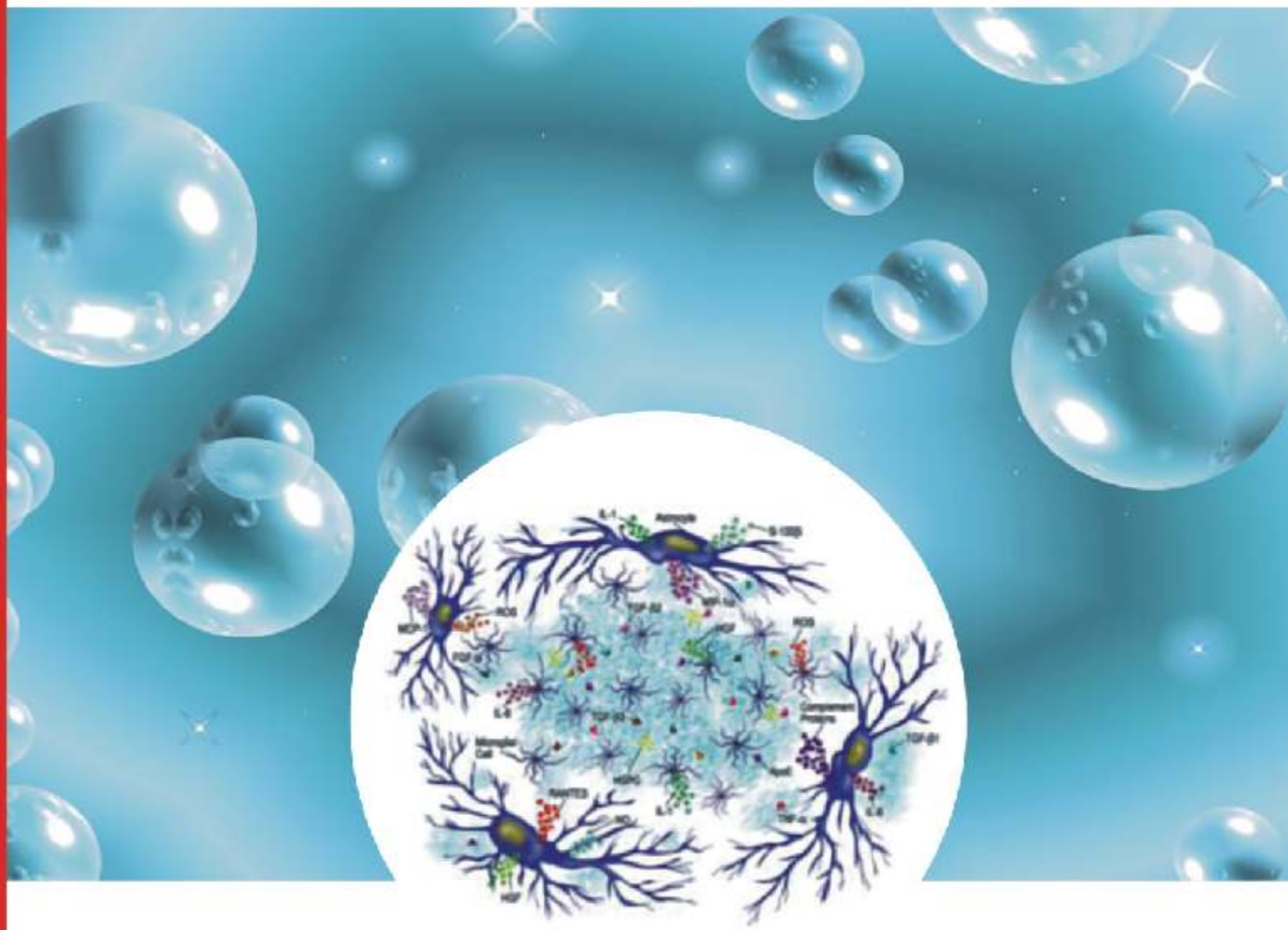
BJKines

To Educate, Inform and Promote

Volume 2 No.1 March 2010



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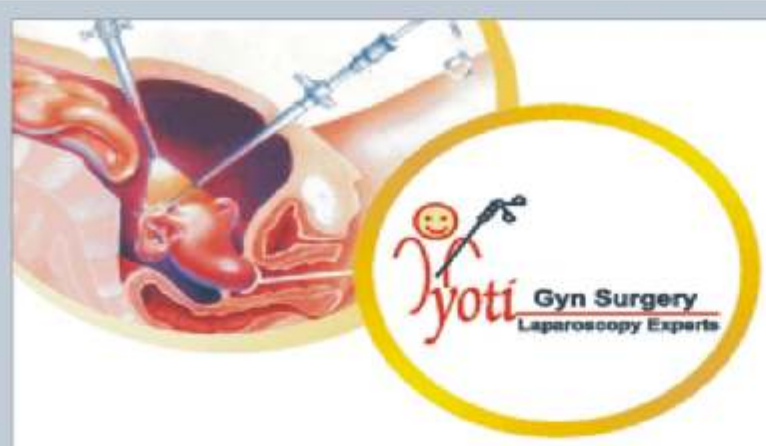

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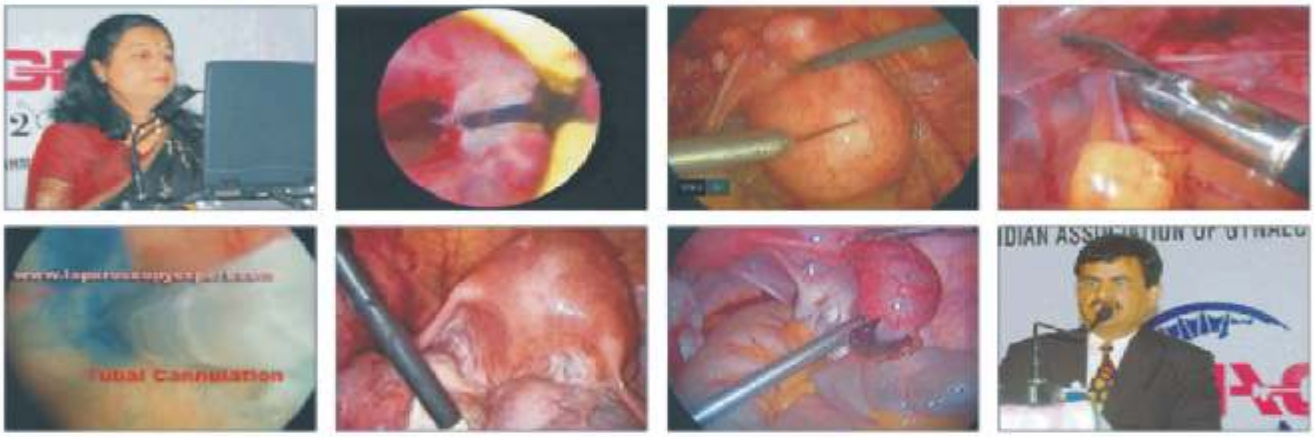

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From The Editor's Desk.....

Dear friends,

Greetings to one and all !

Medicines are essential in health and diseases. Health care professionals play a key role to ensure that medicines are used rationally. Unlike other consumer goods, medicines are the products where the decision to purchase and consume is not made by patient (consumer) but by the prescriber. Hence, it is essential to make the choice conscientiously after having scientific, accurate, and unbiased drug information.

On the other hand, there has been a phenomenal growth of new medicines and their formulations. Often many of them are similar (me too) products. These medicines are introduced in the market before they appear in the standard text books. Drug promotional activities become a major source of information for the health care professionals. However, these activities should not influence the selection and prescribing of medicines. Recently, the relationship between health care professional and the pharmaceutical industry which may influence the prescribing and decision making has been a matter of concern to Medical Council of India. Direct to-consumer-advertisements (DTCA) of over the counter medicines are meant to educate and empower the consumers. Some of these DTCA have been brought under scrutiny and either revised or withdrawn.

What can a teaching institute do in this regard? We need to undertake educational initiatives to sensitize, educate and inform the future prescribers. *Guide To Good Prescribing* and *Ethical Criteria for Medicinal Drug Promotion* published by WHO are attempts in this direction. This can be implemented in undergraduate medical curriculum and reinforced in post graduate studies. This may help tomorrow's doctors to have a critical attitude towards various promotional activities in their professional career and make a rational choice for better patient health care.

Dr. Mira K. Desai

Dr. Bipin K. Amin

BJKines

Contents

Diagnostic Facility for Swine Flu

Nidhi Sood, M. M. Vegad***

The establishment of a fully operational diagnostic facility for detection of Swine Flu at Microbiology Department was a creditable achievement especially in view of the emergency nature of the disease and the limited period in which personnel were required to establish the laboratory.

Introduction

The Swine Flu virus, technically known as the H1N1 Novel or 2009 H1N1 Virus is a variant of the already existing Influenza A virus known to cause seasonal flu in humans every year. This virus is believed to have significantly mutated to the present form H1N1 which has now been established to be the cause of the influenza pandemic of last year.

The Influenza virus is an enveloped RNA virus and has an inherent capacity for genetic variation due to two unique properties like a segmented genome and a high rate of mutation.[1] The virus has eight RNA segments, each being genetically independent of the others. Hence, there is a large probability of genetic reassortment between the segments resulting in a wide number of possible virus variants. It also possesses a genome that particularly lends itself to mutations both by small changes termed *antigenic drifts* as well as by drastic changes referred to as *antigenic shifts*. Antigenic drifts may occur by small-scale changes like base deletion, addition or substitution. These are responsible for minor variations in the virus, an event that occurs almost every year. Antigenic shifts occur through genetic reassortment. RNA pieces may be exchanged between various strains of the Influenza A virus. This causes major changes in the virus leading to appearance of a new virus for which humans worldwide may not have any prior immunity.

Emergence of the Swine Flu Virus and its Pandemic Potential

The unique molecular features of the Influenza A virus along with the ability of the virus to cause infections in a wide host range of humans, pigs, birds, horses, etc. makes it a potential candidate for pandemics.[1] Pigs and birds act as mixing vehicles wherein genetic reassortment of the RNA segments may occur leading to the antigenic shifts. The last century saw the emergence of three new Influenza-A viruses resulting in pandemics respectively in 1918 (H1N1), 1957-58 (H2N2) and then in 1968 (H3N2.) Early in the year 2009, Influenza like illness was ascribed to a new Influenza A virus that had its origin in Mexico. A large proportion (~ 30.6%) of genetic material of this virus comes from the North American Swine Influenza virus. The other constituents are 17.5% from the Eurasian Swine Influenza virus; 34.4% from the North American Avian influenza virus and the remaining 17.5% from the Human Influenza-A virus.[2,3] This particular genetic combination had not been seen before in the US or anywhere else.[4] Since this virus differed significantly from previously circulating strains, it was referred to as new H1N1 or Swine Flu or H1N1 2009 virus. Pigs acted as the mixing vessels for the virus; hence the misnomer "Swine Flu" for it gained popularity. By June 2009 WHO had declared a pandemic on account of this virus.

Miller *et al* analyzed the "signature features" of the previous three Influenza pandemics.[5] The four epidemiological features as the key determinants for pandemics includes occurrence of shift in the virus subtype, shifts of highest death rates to younger population, successive pandemic waves and higher transmissibility than that of seasonal influenza. The H1N1 Novel virus has shown at least two of these characteristics *viz.* shift in sub-type and higher transmissibility.[6]

Establishing the Diagnostic Facility

From 2005 onwards there was a widespread fear of Bird Flu (H5N1) though India had not experienced any human infections. The virus had crossed the species barrier elsewhere in Asia and other countries and had caused a large proportion of fatalities. Owing to this, a need was

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felt to set up a mechanism of surveillance of Influenza like illnesses countrywide. Accordingly, the Microbiology Department at B. J. Medical College, Ahmedabad was identified to study and set up a National Influenza Laboratory for the West Zone. The department was in the process of establishing the surveillance laboratory when the H1N1 pandemic was detected. Suddenly, the focus shifted from H5 to H1 pandemic, resulting into tremendous pressure to commence the H1N1 testing facility for Gujarat at the earliest. This essentially required three important tasks to perform:

1. Setting up of a Bio Safety Level- 2 + (BSL-2+) laboratory
2. Establishing and validating the testing protocol and
3. Preparation of viral transport medium and distribution to various districts across Gujarat.

Setting up of a BSL-2+ laboratory

It has been recommended by WHO diagnostic laboratories for suspected cases of H1N1 virus infection should be conducted in BSL-2+ containment conditions.[7] BSL-2 labs are used to study moderate risk agents that pose a danger if accidentally inhaled, swallowed or exposed to the skin. Hence, these labs should have bio containment precautions to isolate dangerous biological agents in enclosed environment. These levels range from lowest 1 to highest 4. The safety measures include access controls, specialized training for laboratory employees, personal protective equipment such as gloves and eye wear, hand washing sinks and decontamination of waste material as well as bio safety cabinets or vertical laminar flow. It should provide HEPA filtered, recirculated mass airflow within the workspace resulting in personnel, product and environment protection. All clinical specimens should be manipulated inside bio-safety cabinets; entry is restricted to the authorized persons only. Since there was both a time and space constraint, the space allocated to the dengue laboratory was apportioned for this purpose. This zone was converted into a BSL-2+ area to process H1N1 samples and minimizes the risk of spread to community.

Establishing and Validating the Testing Protocol

Since it was a new virus, testing strategy approved by the WHO was adopted to provide accurate and reliable results to support the field teams. Two personnel from the department were trained at NICD, New Delhi for carrying out the diagnostic tests. Since this was a new technique which required technical skill, several samples were tested in parallel at the new laboratory as well as at the NICD before the test procedures at our lab were fully validated.

Preparation and Distribution of Viral Transport Medium (VTM)

The success of the virus detection depends on the proper collection and transport of the specimens (throat swabs, nasopharyngeal swabs, tracheal aspirates or bronchoalveolar lavage) from suspected Swine Flu cases. It has been recommended by WHO to ship the samples in a specific Viral Transport Medium (VTM).[3] As the preparation of VTM is a specialized procedure and critical to the subsequent detection of the virus, the same was prepared and processed at our laboratory and then distributed across various districts of Gujarat to enable field teams to collect the patient samples.

Test Methodology

A number of flu tests are available for the detection of Influenza viruses such as rapid influenza tests, immune-fluorescence tests, virus culture and molecular methods. Out of these, the molecular methods are the most preferred ones as they are accurate, sensitive and specific and are able to differentiate the H1N1 from the other variants. The other tests detect the presence of influenza viruses but do not distinguish between the subtypes. At this laboratory, a molecular test procedure approved by WHO and CDC was adopted.[8] This is the Real Time Polymerase Chain Reaction (RT-PCR) that employs the detection of a very specific part of the viral genetic sequence of the Swine Flu virus.

On August 6th, 2009 the H1N1 diagnostic laboratory at B. J. Medical College was declared functional and became the first laboratory in the Western Zone to cater to H1N1. The announcement was followed by a flood of samples

for H1N1 testing from all over Gujarat. To date, close to 4000 samples have been tested. To cope with the initial onrush of samples the flu team laboratory personnel worked very hard on a 24 x 7 basis while maintaining the quality of test procedures coupled with meticulous record-keeping essential for the epidemic management.

Acknowledgement

It was a great learning and fulfilling experience for all persons involved in setting up and operationalizing the Swine Flu diagnostic laboratory at B.J. Medical College, Ahmedabad. The authors wish to express their gratitude to the Ministry of Health & Family Welfare, Gujarat State, for mobilizing statewide teams to combat the outbreak of the swine flu epidemic. We sincerely thank for providing training, infrastructure and administrative support in setting the diagnostic laboratory in a record time.

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The molecular methods of testing Swine Flu virus are the most preferred ones as they are accurate, sensitive, and specific and are able to differentiate the H1N1 from the other variants. The success of the virus detection depends on the proper collection and transport of the specimens (throat swabs, nasopharyngeal swabs, tracheal aspirates or bronchoalveolar lavage) from suspected cases.

The Computerized M.C.Q. Lab and Tests- A Report

Chetna Desai, R. R. Patel**, B. J. Shah****

Multiple choice questions (M.C.Q.) are an important tool for formative and summative evaluation of students. The medical graduates and postgraduates need to become adept at this method of evaluation to prepare them for the competitive entrance examinations in the state, country and abroad. Until some years ago it was noticed that our students were unable to stand up to these competitive exams, not because they were academically inferior than their counterparts in other parts of the country, but because they were not adequately trained in the technique required for appearing in these exams. With this insight, it was decided to conduct the M.C.Q. Mock Test Series for interns in our institution. It was an experiment that began in a small way, on a voluntary basis for the students, with minimal resources and infrastructure. These were paper - pencil tests; tedious to design and conduct and requiring recurring human and other resources. However the response for these tests was encouraging and as the word of its usefulness spread, there were requests from the students to continue them. It was then decided to put in greater resources, better expertise, technological sophistication and most importantly a committed team to take this rewarding task to greater heights, for the benefit of our students.

The project began with the setting up of the computerized lab in the college housing about 50 computers with server and intranet connectivity. With generous support from the State Government and a dedicated effort of the team members, the lab was setup in a short period. It was inaugurated by the Honorable Minister of Health and Family Welfare Shri Jayanarayan Vyas. In its fully operational form, the lab can accommodate 50 students at a time. The indigenously developed versatile software allows subject wise creation of question banks, automatic random generation of subject wise question papers based on the desired difficulty level and time allocation. Generation of multiple question papers is possible due to the large question bank and the quick automated system. Thus the system allowed the students to take multiple tests, with a different question paper each time. During the past year, the interns of the 2009 batch took 5 tests each, within a short span of 4 months.

* Coordinator,

** System Administrator,

*** Dean and Chairperson, MCQ committee

Fig.1 : A test in progress

The system not only allowed practice for the students, it also gave a feedback to the students. This was done in two ways. In the first step the students could view their performance and the correct answers at the end of the test. The doubts that arose in this process and the clarifications thereof were provided by the respective subject faculty who stood on their toes personally throughout the test series. This immediate feedback and clarifications provided to the students helped them reinforce their learning. Additionally, during the one-hour long discussions, the students also had the opportunity to share their doubts and knowledge with each other, thereby providing an opportunity for group learning.

Fig.2 : Faculty training in progress

Well, the team did all it could, putting in their best effort. However, the true test of was the student's themselves. Their opinion and feedback would validate and certify the system! Hence a feedback web poll was designed for the interns who had appeared in these tests. The web poll indicated that the students found the test series very useful. They opined that the tests gave them an

Fig.3 : Feedback session

opportunity to practice, provided an exposure to a wide range of questions and also taught them time management. The students also had some useful suggestions to give, which could be helpful in upgrading the system further. The first batch of interns (2009 batch) who appeared for this test series took their competitive pre-P.G. tests in Gujarat in January 2010 and the other national competitive exams as well. The results of the All Gujarat Pre P.G. exams conducted by the Gujarat University showed some interesting findings as follows (Table 1):

Table 1 : Performance of students of B. J. Medical College in the Pre-P.G. Entrance Examination held by Gujarat University in the year 2009.

Scores obtained by students(%)	Number of students (Overall)	Number of students of B. J. Medical College Ahmedabad	Percentage of students of B. J. Medical College
70-80	68	35	51.47
60-69	226	48	21.24
50-59	318	50	15.72
40-49	305	51	16.72
30-39	205	18	8.78
20-29	150	11	7.33
10 to 19	69	1	1.45
0-10	5	0	0.00

The students of our college fared well in the All India Postgraduate Entrance Examinations that was held in 2009. Approximately 45 of these students were successful in these examinations and scored meritorious ranks, thereby enabling them to gain admissions in the specialties of their choice. Dr Nikunjkumar Banker (AIR - 4), Dr Jay Shah (AIR - 58), Dr Mitali Desai (AIR - 135), Dr Hiren Patel (AIR - 326) and Dr Bhagyadham Patel (AIR - 541) were among these many meritorious students. This was a marked improvement in the performance as compared to the previous years. We congratulate all the successful candidates.

Fig.4 : Pre test instructions

The above results and feedback have been useful for further planning further and making suitable corrections/ modifications in the system. As a next step the M.C.Q. based tests have also been conducted for the students of I and II M.B.B.S. students and will be conducted for the III M.B.B.S. students shortly. These tests will henceforth be a regular feature of the internal assessment. While it will be a means of formative assessment, it will also eventually prepare them for the competitive entrance examinations. We are also developing the system to cater to the needs of the students appearing for the entrance examinations for the D.M., M.Ch courses and also for the U.S.M.L. Examinations.

At this juncture, we wish to acknowledge and sincerely thank the teamwork of the advisors and the faculty who have contributed directly or indirectly to this project either in preparation of question banks, conducting the tests, in upkeep of the centre, or providing valuable suggestions. The technical support provided by Dr. Shubham Negi and Dr. Sharad Kelkar is also worth a mention here. Most importantly we thank our students for reposing faith in us and making the best use of this facility provided to them.

(On behalf of all the team members and faculty who made this lab and the project possible)

U.N. Mehta Institute of Cardiology and Research Centre, Ahmedabad - A profile

U. N. Mehta Institute of Cardiology and Research Centre (UNMICRC), a super specialty teaching, research, academic and charitable tertiary care cardiac hospital is situated with in the campus of Civil Hospital. The institute is headed by Director, Dr. R. K. Patel, incidentally also a BJ-ite. The institute is affiliated to B. J. Medical College and currently have good number of super specialized courses for DM Cardiology(7), Cardio Thoracic Surgery(2), and Diploma in Clinical Cardiology course(10).

The Glorious History

It was initially founded in year 1982 as Department of Cardiology in Civil Hospital, Ahmedabad, which was named as Institute of Cardiology. The institute was declared having Autonomous Status in 1992 and named as Institute of Cardiology & Research Centre. This was registered as a Public Trust Institute, as well as Society under Society Act in1992. Subsequently, the institute moved to new building adjoining B. J. Medical College in 1996. After receiving donation from U. N. Mehta Charitable Trust, this Institute was renamed as U. N. Mehta Institute of Cardiology & Research Centre.

Health Care Facilities

Although the sanctioned beds are 200, the workload has increased with average occupancy remains about 280 beds. To provide state-of-art treatment the institute has undertaken up gradation and expansion project that will increase the bed strength up to 450 beds. This will result into four Cathlabs, five state-of-art operation theatres including one pediatric operation theatre, one thoracic operation theatre, 52 bedded Medical ICCU for emergency cardiac treatment, 55 bedded cardio thoracic recovery room and Step Down Unit (SICU), 35 special rooms and a general ward.

This is the only institute of its kind in the country giving absolutely free world class cardiac treatment which includes cardiac procedures and cardiac surgery, to BPL card holders of Gujarat state, scheduled caste and scheduled tribes' patients of the state. The institute is entrusted for its unique School Health Cardiac Program by Government of Gujarat where the institute gives free cardiac treatment including different procedures and surgery to the children ranging 0 to 14 years whether school going or not and 14 to 18 years school going children of Gujarat state.

The Following table shows the comparative data of services and facility at the institute over the years :

Sr. No.	Particulars	2002	2005	2008	2009	2010
1	No. of OPD patients	14441	31655	59134	66189	
2	No. of IPD patients	2682	5402	8384	11545	
3	Cathlab	2	3	2(1+1)	2 (1+1)	4
4	Cardiology Proc	2946	3725	6519	6706	
5	TMT test	1315	1691	1745	1794	
6	2D ECHO	13534	23872	42738	46835 (Gen and Pediatrics)	
7	Open Heart surgeries	616	713	1646	1871	
8	Closed Heart surgeries	251	293	699	822	
9	Operation Theaters	1	2	3	3	5
10	No. of Beds	135	200	210 (Occupied)	275 (Occupied)	450

SCHOOL HEALTH DATA

YEAR	NO.OF OPD CASES SURGERY	CARDIAC PROC. SURGERY	OPEN HEART SURGERY	CLOSED HEART SURGERY	TOTAL
2006-07	1928	410	667	57	724
2007-08	2296	939	890	212	1102
2008-09	4124	637	977	202	1179
2009-10 (Upto Dec 09)	4000	916	732	198	930
		BPL DATA			
2006-07		580	109	28	137
2007-08		962	330	47	377
2008-09		1356	295	175	470
2009-2010 (Jan-2010)		1246	289	173	462
		SC DATA			
2008-09		111	18	16	34
2009-2010 (Jan-2010)		323	62	33	95
		ST DATA			
2008-09		41	20	4	24
2009-2010		81	31	8	42

The institute has initiated treatment of emergency cardiac patient without any advance payment for initial 12 hours to include first golden hour of treatment to save the precious life. This programme has been appreciated by all that has given recognition to the institute with special benchmark.

The institute has received huge donation of Rs. 21 crore from the Patron U. N. Mehta Charitable Trust for expansion and up gradation in the adjoining land given by Government of Gujarat. Along with its charitable motto of serving poor class of people, every attention is taken for the education of super specialty Cardiology teaching. More than 26 DM Cardiologists of the State has been trained and qualified at this institute. This is a state-of-art teaching, academic, research and charitable Institute, having an academic wing with an auditorium and mini conference rooms, having good collection of rare and expensive books in library along with internet facility, fully computerized data management system, well trained cardiac support staff for non invasive cardiology support procedures like ECG, ECHO, TMT, 24 hr. Radiology, 24 hr in house Pathology Lab etc.. The institute believes in a state-of-art therapeutics, extensive educational and research efforts in cardiology within Civil Hospital Campus.

Mission

Quality Care with accountability.
Corporate care at charitable cost.

Scientific Events and Achievements at B. J. Medical College, Ahmedabad.

Anatomy Department

- Organized C.M.E. on 'Kidney - Anatomic perspectives to recent treatment modalities' on 7th Feb 2010. The programme was coordinated by Dr. H. R. Shah and Dr. Dipali Trivedi
- Guest lecture by Dr. P. S. Shrimankar on 'Stem Cells' on 23rd Jan 2010 at GUJCON

Emergency Medicine Department

- The institute has taken lead to initiate a postgraduate course (M.D.) in Emergency Medicine for the first time in the country. The course has been approved by Medical Council of India.

IHBT Department

- Blood bank has been accredited by NABH. It is the first of its kind to provide state-of-art facility in public sector in the country. It has also been awarded by FICCI for its excellent services.

Microbiology Department

- Training Programme for specialist, medical officers, technicians
  - ICTC -Integrated Counseling and Testing
  - Sample collection and transport for Diagnosis of H1N1influenza
  - Sensitization and awareness of faculty members of Pathology, Microbiology and Biochemistry for NABL final assessment
- Research Projects
  - 'Antifungal susceptibility of *Candida* isolated from clinical specimens of AIDS patient in tertiary care hospital.'
  - 'Prevalence of *Cryptococcus* in AIDS patients of tertiary care hospital by immunodiagnosis'.
  - 'Antitubercular drug susceptibility in multidrug resistant tuberculosis patients of Gujarat'.
  - 'The occurrence of Hepatitis G virus in multitransfused patients'
  - Detection of *Pneumocystis Carinii* by immunofluorescence technique in HIV positive cases with CD4 count <200 /cml
- Scientific Publications
  - 'Seroprevalence of HIV, HBsAg, HCV and syphilis in commercial sex workers of Ahmedabad city'. *GMJ*, February 2009. by Dr. Sumeeta Soni, Dr. Mitesh Patel
  - 'Seroprevalence of *Toxoplasma gondii* in woman with Bad obstetric history of Ahmedabad'. *GMJ*, February 2009. by Dr. Nidhi Sood, Dr Sumeeta Soni , Dr Praveg Gupta, Dr M. M. Vegad
  - 'A study of seroconversion after immunization with Hepatitis B vaccine'. *Indian J of App Basic Medical Sciences,* September 2009 by Dr Neeta Khandelwal, Dr Hetal Shah
- Other Milestones
  - HIV Laboratory of Microbiology Department has been designated as *Best State Reference Laboratory(SRL) for HIV testing in Gujarat* by National AIDS Control Organization (NACO) in August 2009.

- External Quality Assessment Scheme- (EQAS) conducted by the Indian Association of Medical Microbiologists (IAMM)- Thrissur, Kerala, secured 91% proficiency testing in Bacteriology and Serology for the year 2009.
- Polio laboratory is one of the seven WHO Accredited Laboratory under National Polio Surveillance Project.

Obstetric and Gynaecology Department

- Guest lectures by Dr. Haresh U. Doshi
  - 'Vacuum extractor resurgence' at Yuva FOGSI, Gwalior, Nov. 2009
  - ' Instrumental vaginal delivery in present times' at Delhi , Dec 2009
  - " IUGR - modern management " at SOGOG, Anand, Jan 2010
  - " Role of nutraceuticles in pregnancy", " Maternal mortality - Winners & Loosers " at ObGy National conference at Gauhaty, Jan 2010
  - ' Monitoring for preventing complications in Hysteroscopic surgeries' at Endovision 2010 at Ahmedabad, Feb 2010.

Pathology Department

- Research Project
  - Screening of hemoglobinopathies and thalassemia in the women attending antenatal clinics in their first trimester by Dr. H. M. Goswami
- CME on Immunohistochemistry 14th March, 2010.
- Special Facilities
  - Immunohistochemistry is established satisfactorily for 18 panels of antibodies reported in routine histopathological examination i.e. Actin, CK, PSA, Vimentin, S-100, ER, PR, CD 45, CD 20, Desmin, Peppen, Vimentin, TG, Calcitonin, HMB 45, EMA, Chromo A, NSE, VWF, CD 34

Pharmacology Department

- Workshops on 'Scientific writing'

  The editorial team of *Indian Journal of Pharmacology*, conducted a pre-conference workshop at the 28th Annual Conference of IPS, January 2010 and on 5th March 2010 for the institution staff members and post graduates. The workshop was interactive and participatory in nature with focus on the basic aspects of writing a scientific paper.
- Guest Lecture by Dr. R. K. Dikshit
  - "Applied Pharmacoepidemiology" at 28th Annual Conference of IPS (Gujarat Chapter), Karamsad, January 2010.
- Guest Lectures by Dr. Mira K. Desai
  - Invited as a key resource person for the training course on "Promoting Rational Use of Medicines in the Community" organized by Kathmandu University, Nepal and sponsored by WHO, November 2009.
  - "Pharmacovigilance - Indian scenario", by Arkus Clinical Solutions, Ahmedabad, December, 2009.
- Guest Lectures by Dr. Chetna Desai
  - Guided FAIMER Fellows as National Faculty at the CMCL FAIMER Fellowship Programme at Ludhiana, Jan. 2010.
  - "Clinical skills workshop", at the National Conference of Health Professional Education, Pune, Dec 2009.

- Poster Presentations
  - 'A comparison of two scales of causality assessment of spontaneously reported ADRs at a tertiary care teaching hospital' by Dr. Samidh Shah
  - "A prospective study of ADRs reported in patients from psychiatric department at a tertiary care hospital in Gujarat" by Dr. Jigar Panchal
  - 'An evaluation of knowledge, attitude and practice of ADR reporting among prescribers in Civil Hospital, Ahmedabad' by Dr. Geetha Iyer at 42nd Annual Conference of IPS, Kolkata, December 2009.
  - 'A study of prescribing pattern of fixed dose combinations in Ahmedabad" by Dr. Jayesh Balat at 28th Annual Conference of IPS (Gujarat Chapter), Karamsad, January 2010.
- Paper Presentations
  - "Comprehensive analysis of cutaneous ADRs - A prospective study" by Dr. Samidh Shah at 28th Annual Conference of IPS Karamsad, January 2010.
- Project
  - An evaluation of the Knowledge, Attitude and Practice of ADR Reporting among prescribers at Civil Hospital Ahmedabad.

Physiology Department

- One day CME "Pathophysiology and management of stress" was organized on 19th Feb. 2010. Various aspects on stress including Physiology, stress amongst the medical students, stress management, alternate therapies etc were discussed.

Radio diagnosis and Imaging Department

Actively participated at 63rd IRIA National Conference, Ahmedabad, Jan 2010

- Guest Lecture on 'Challenges with radiologist: Dengue, chicken guinea, plague and swine flu' by Dr. R. N. Solanki.
- Computer Based Learning on,
  - "Progeria - Where 10 looks 80" by Dr. Digish Vaghela, Dr. Dhaval Mistry, Dr. Neelam Boora.
  - "Multiple intracranial germ cell tumors" by Dr. Abhilasha Jain, Dr. Dharav Kheradia, Dr. Brijesh Gajjar.
- Posters Presentations,
  - "Unusual cases of rupture of various lesions" by Dr. Digish Vaghela, Dr. Pratik Patel, Dr. Yashpal Rana.
  - "Lipoma arborescens of knee" by Dr. Shital Patel, Dr. Dipali Shah, Dr. Neelam Boora.
  - "Fetal Syndromes" by Dr. Digish Vaghela, Dr. Dhaval Mistry
  - "Doppler for fetal anomalies" by Dr. Digish Vaghela, Dr. Chintan Shah
  - "Situs ambiguous with asplenia" by Dr. Vipula Goswami, Dr. Neelam Boora, Dr. Deepak Thakor.
- Paper Presentations,
  - "Magnetic Resonance Imaging: The Golden Key to Spinal Dysraphism" by Dr. Digish Vaghela, Dr. Pratik Patel, Dr. Neelam Boora.
  - "Measurement of cochlear dimension by CT/MRI and its utility during surgery" by Dr. R N Solanki, Dr. Rajesh Vishwakarma

    "Role of MRI in knee injury" by Dr. Hemangini Balat, Dr. Digish Vaghela, Dr. R. N. Solanki

Pharmacoepidemiology

R. K. Dikshit, Mira K. Desai**, Chetna Desai***

ABSTRACT

Pharmacoepidemiology is the study of drug use and effects in large number of people. The scope of pharmacoepidemiology is not limited to detect the risks of a drug treatment only, it also extends to uncover the benefits or effectiveness of the drug therapy. Methods used to meet these objectives are derived from the disciplines of clinical epidemiology as well as clinical pharmacology. Some of these techniques are case reports, case series, cohort studies, case control studies, phase IV clinical trials (post-marketing surveillance), prescription analysis, drug utilization studies, randomized clinical trials, meta-analyses etc. The practice of pharmacoepidemiology does not require sophisticated equipment or other expensive infrastructural support. It, however, demands a very sound planning, execution and statistical expertise. Several important decisions have been taken in the past based upon the conclusions of pharmacoepidemiological reports. Like many other branches of pharmacology, pharmacoepidemiology is also aimed to optimize the drug therapy (maximum benefits with minimum harm). It is bound to flourish in future.

Introduction

Several new areas of interest have emerged in Pharmacology in the recent past. Some of them are clinical research, pharmacovigilance, pharmacoeconomics and pharmacoepidemiology. The discipline of clinical research is an integral part of new drug development. It undertakes pharmacokinetic studies, clinical trials and several other tasks related to the clinical phase of new drug development. Pharmacovigilance is involved with detection, assessment, prevention and management of adverse drug reactions. Pharmacoeconomics is concerned with the cost-management of the human illness. Pharmacoepidemiology is yet another subject that has gained importance in the recent past both in the process of new drug development as well as practical therapeutics. It is the study of the use and effect of drugs in large number of people. All of this has caused the process of new drug development to become long and circular. However, all areas share a common objective to make better drugs and to improve their use and safety as much as possible (Fig. 1).

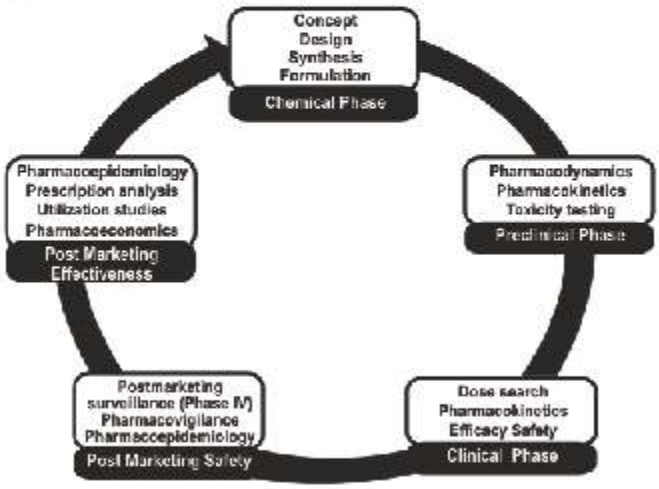

Fig.-1 The Drug Development Cycle

Pharmacoepidemiology

The Need

Pharmacoepidemiology is important for several reasons.

(a) There are inherent limitations in drug development and regulatory processes e.g. premarketing clinical trials are generally of short duration, they have a small sample size, they are conducted on a very narrowly defined population with a view to assess the efficacy in a very few specific indications and there are hardly any comparison groups (placebo at the most). As a result, the beneficial or adverse effects that develop slowly or have along latency period or develop only after a chronic use cannot be detected, infrequent or rare adverse effects cannot be predicted and drug effects remain unknown for special groups (elderly patients, children, pregnant females etc). Most importantly, how a drug will perform in population ('drug effectiveness') remains unknown and these studies do not provide all the information that may be needed to make a therapeutic decision.

(b) In several situations evaluation of drug safety and effectiveness using well established methods of clinical pharmacology (e.g. randomized clinical trials, use of placebo etc) may remain difficult,

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expensive or ethically unacceptable. In all such cases epidemiologic study designs can be employed.

(c) Drug development should be considered as a continuous process. Thus, a drug needs to be monitored throughout its life for the unknown benefits or risks maybe via pharmacoepidemiologic techniques.

Scope

Traditionally, pharmacoepidemiology has been viewed as a study of adverse drug reactions on a large scale. However, its scope is much wider.

- The use of pharmacoepidemiology begins right from the time of making a therapeutic decision (whether drug therapy to be instituted or not, which drug(s), what dose, duration, formulation etc).
- Adverse drug reactions are an important public health concern. Pharmacoepidemiology continues to be involved with their study in general population particularly the type B reactions.
- As noted above, in addition to the risks, pharmacoepidemiological studies also help us find the additional benefits when a drug is used post-approval on a large scale.
- Post-marketing information may help establish the real 'effectiveness' of a drug (apart from its efficacy).
- The information so gathered may lead to suitable policy changes, issue of alerts/warnings or modification in the practice guidelines and should strengthen the practice of evidence based medicine.

Methods

Pharmacoepidemiology is a synthesis of the clinical epidemiology and clinical pharmacology. Most of the methods used in pharmacoepidemiology are also, therefore, derived from these two subjects. They are of three types, experimental, quasi-experimental and observational.

(a) Experimental Methods

These are characterized by the control they have on the assignment of individuals to various study groups that is usually through randomization. Randomized clinical trials (RCT) including phase IV post- marketing studies are an example. The controls can take care of unknown/ immeasurable confounders. Post-marketing trials can study the special groups (elderly, children), effects of chronic treatment and comparative value of the medications. However, they are expensive, logistically difficult and sometimes ethically objectionable.

(b) Quasi-Experimental Methods

Some of the problems of the experimental techniques (or RCTs) can be overcome by quasi-experimental techniques such as time-series methods or analyses of trends. Large data bases are studied, randomization is not done but subjects are divided into exposed or unexposed groups. An analysis of underlying trends or factors that could have altered the study outcome or progress is done with some post-test assessment. These studies can be performed quickly.

(c) Observational Methods

The most typical pharmacoepidemiological studies are observational in nature. These methods do not use randomization. They study the association between a cause and effect (exposure v/s disease) through observation and statistical analyses. They can be performed quickly and are less expensive. Ethical objections are also not likely. However, controlling the influence of confounding factors as well as bias can be a problem with these techniques. They are briefly described below:

i) Case Report

(a spontaneous case reports, passive surveillance)
Here a single patient exposed to a drug who experienced a certain effect (usually an ADR) is reported. These reports, if well documented, can provide a signal about a rare ADR or about at risk groups, risk factors, clinical characteristics of known ADRs etc. This activity depends upon several factors (e.g. time since introduction in case of a drug, regulatory policy, media attention etc). Although case reports are very common, it is difficult to establish a causal effect on their basis.

ii) Case Series

This is an improvement on case reports. Here a group of patients with a common exposure are studied for the outcome. We can quantify the incidence rate but a causal relationship is still difficult to be established. This can be used for post-marketing studies (phase IV cohort studies).

iii) Active Surveillance

This is a regular, systematic collection of case reports. This can be done in the form of a risk management programme, intensive monitoring or through registries etc. This may have better response both quantitatively as well as qualitatively than a passive surveillance.

iv) Cohort Studies

This method compares the exposed to the unexposed persons from the same group and evaluates the differences in outcome over a period of time. This can be done prospectively as well as retrospectively, although prospective cohort studies are considered to be very strong. However, large number of persons are required to be followed up for a long time and this can be expensive, time consuming and sometimes infeasible. Retrospective cohort studies are, therefore, used much more commonly to evaluate the risks and benefits of a marketed medication provided reliable databases are available or other methods (like questionnaires, interviews) are used. A causal association is more likely to be valid if proved by cohort studies than by other observational methods.

v) Case Control Studies

This technique has a group of cases (people having a disease/outcome) and a control group (no disease/outcome). The groups are then compared to study the relationship between an exposure of interest (e.g. a drug treatment) and an outcome or disease. Again, this is also a commonly used method for drug safety studies. It is effective for the study of rare or delayed outcomes and is relatively inexpensive. However, a selection or information bias may be difficult to be removed. Large databases, if maintained adequately, solve the problem to a great extent (Fig 2).

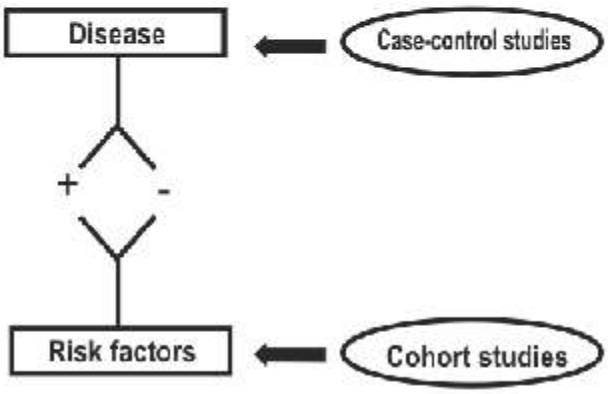

Fig.-2 Design of case-control and cohort studies

This is a slight modification of case control and cohort studies. Here, only a random sample of all controls or sometime even of cases is taken for the study. It reduces the cost as well as time taken for the study.

Additionally, various other observational methods have also been used to yield a useful information on patterns of drug prescribing ('drug effectiveness') e.g. drug utilization studies, prescription analysis etc.

Important Examples

The literature is full of the success stories of pharmacoepidemiology whereby important policy changes were made subsequent to a conclusive investigation. Besides highlighting the importance of the subject these examples give us a fair idea of how a well planned investigation can be undertaken. Some of these examples are given in Table 1.

Table 1. Examples of significant pharmacoepidemiological investigations (year when established)

(A) Beneficial Effects
• Protective effect of aspirin on myocardial infarction (1982)
• Inhaled corticosteroids in bronchial asthma (lesser mortality) (2000)
• Aspirin, NSAIDS - reduced incidence of colorectal cancer (2005)
(B) Adverse Effects
• Oral contraceptives and thromboembolism (1969)
• Troglitazone/Rosiglitazone (hepatic damage/ heart attacks) (1997)
• Cisapride (QT abnormalities) (2000)
• Diethylstilboesterol (Vaginal cancer)
• COX-2 Inhibitors (serious cardiovascular disease) (2005)

Future

Pharmacoepidemiology is unique as its methods relate to the general population, do not require sophisticated equipment, extensive infrastructure or large money. Conclusions reached at a pharmacoepidemiologic inquiry can straightaway help formulation of a policy and help the cause of evidence based medicine. It may, however, require a meticulous planning, existence of large/ comprehensive databases and statistical expertise. Our databases are likely to firm up in future and hopefully we should witness a lot of useful pharmacoepidemiology in times to come.

Life Style Modifications in Hypertension in the Indian Context

Bharat Parmar, K. M. Mehariya***

ABSTRACT

The prevalence of life style diseases like coronary artery diseases, obesity, diabetes mellitus and hypertension has increased worldwide including India. This calls for urgent prevention and control measures to reduce morbidity. However, life style modification is mostly neglected. The present article discusses some of the non-pharmological intervention for the prevention of hypertension.

Introduction

Hypertension has become a major cause of morbidity and mortality worldwide and it is now ranked third as a cause of disability-adjusted life years.[1] In India hypertension in general population is largely undetected. World health report[2] states that elevated blood pressure alone contributes to about 50% cardiovascular diseases. Further, the risk of cardiovascular diseases starts at upper limits of normal levels of blood pressure. Therefore it would be desirable to achieve optimal or normal BP (130/80 mmHg) in young and middle aged. The Indian Hypertension guidelines suggest that the patients with diabetes and chronic kidney diseases, BP should below 130/80 mm Hg, with stroke it should be below 130/86 mm Hg and at least high normal blood pressure(below140/90 mm Hg) in elderly patients.

Prevalence in India

Epidemiological studies shows that hypertension is present in 25% urban and 10% rural population in India. According to the recent review on global burden of hypertension, the estimated prevalence of hypertension (in people aged 20 yrs and older) in India in the year 2000 was 20.6% among males and 20.9% among females and is projected to increase 22.9% and 23.6% respectively by 2025. The estimated total number of people with hypertension in India in 2000 was 60.4 million males and 57.8 million females and projected to increase to 107.3 million and 106.2 million respectively in 2025.[3]

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Importance of Life Style Modification

This can be addressed by the fact that most of community physicians in India treating hypertension have no time to advise the patient regarding various life-style modifications (non-pharmacological treatment). The table-I shows life style intervention to reduce blood pressure.

Reduced Salt Intake

Dietary salt intake has a linear association with blood pressure. Epidemiological[4], clinical[5], experimental[6] and randomised control trials[7] suggest that health intervention including government policies and action to regulate reduction in salt content of processed foods are cost-effective ways to limit cardiovascular diseases. This could avert over 21 million disability-adjusted life years per year worldwide. Various trials have been done which led to the current recommendation to limit salt intake to 6 gm/day [approximately 1 teaspoon common salt(NaCl)] (100 mmol of sodium or 2.4 gm per day). The Dietary Approach to Stop Hypertension (DASH) sodium feeding study showed that an even lower intake of sodium (approximately 60 mmol/day) further reduces blood pressure in both normotensives and hypertensives. However, palatability concerns and the fact that other nutrient would suffer whilst trying to stick to such an intensive regimen makes the 100 mmol/day regimen in the form of pickles, pappad, chutneys, etc. Therefore, public health strategies must be developed to educate patients.

Strategies to reduce excessive salt use in dietary practices are as follows:

- Avoid excessive salt intake in cooking and adding extra at table
- Encourage intake of food with low salt (fruits and vegetables)
- Avoid food with high salt content (pre prepared/processed foods)
- Increase awareness of salt content of the food choices in restaurants
- Promote use of traditional food rather than western or fast food and junk foods which are high not only in salt but also in calories, sugar, and fat content.

Table : I Life style intervention to reduce blood pressure

Modification	Recommendation	Approximate Systolic Blood Pressure reduction (range)
Weight Reduction	Maintain normal body weight (Body Mass Index 18.5-24.9 kg/m2)	5-20 mm Hg/10 kg
Adopt DASH (Dietary Approach to Stop Hypertension) as eating plan	consume a diet rich in fruits, 8-14 mmHg Vegetables, low fat, dairy products with a reduced content of saturated & total fat	8-14 mm Hg
Dietary Sodium Reduction	Reduced dietary intake to not more than 100 mmol (2.4 gm sodium or 6 gm NaCl)	2-8 mm Hg
Physical Activity	Engage in regular aerobic physical activity such as brisk walking (atleast 30 min/day, most days of week)	4-9 mm Hg
Yoga/ Meditation	Pranayama and Savasana daily for half an hour in morning and evening	Systolic by 7-10 mm Hg Diastolic by 4-6 mm Hg
Moderation of Alcohol Consumption	Limit consumption to not more than 2 drinks (1 oz or 30 ml ethanol; 24 oz beer, 10 oz wine or 3 oz 80-proof whiskey) per day for men; and not more than 1 drink per day for women and light-weighed persons	2.5-4 mm Hg
Tobacco	Total abstinence	

The DASH Diet[8,9]

DASH diet means a diet rich in fruits, vegetables, and low fat dairy products with reduced content of saturated and total fat, and includes whole grains, nuts, poultry and fish. It has low quantities of fats red meat, sweets, and sugar containing beverages. It is thus rich in potassium, magnesium, calcium, and fiber and has low amounts of total fat, saturated fat, and cholesterol.[8] Overall, the dash diet cohort, reduced systolic BP by 5.5 mm Hg and diastolic BP by 3 mm Hg.[8] Within the dash diet cohort, reducing sodium intake showed a graded reduction in blood pressure.

Conclusion

If life style modification is adopted as primary prevention strategy in Indian population, then many of the uncontrolled hypertensive patients can be optimally managed.

The following table shows the Indian equivalent of The DASH Diet based on a 2000 calories plan

Food Groups	Daily Servings	Serving Size
Grains & grain products	7-8 whole wheat), 1 cup dry cereals, ½ cup cooked rice	1 slice bre (preferably
Vegetables	4-5 vegetables, ½ cup cooked vegetables, ½ cup vegetable juice	1 cup raw leafy
Fruits	4-5 fruit juice	1 glass or 200 ml fresh
Fat free or low fat milk and milk products	2-3	200 ml milk or 1 cup yogurt
Lean meat, poultry and fish	2 or less small bowl of pulses	½ cup cooked lean meat, skinless poultry or fish; 1
Nuts seeds and legumes	4-5 per week small cup of legumes 2-3 times a day	7-8 count of dry fruits, 1
Fat and oils	2-3	1 teaspoon vegetable oil
Sweets	5 or less per wk	1 teaspoon sugar

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Dietary salt intake has a linear association with blood pressure. Various trials have recommended limiting salt intake to 6 gm/day (approximately 1 teaspoon common salt). DASH study showed that an even lower intake of sodium (approximately 60 mmol/day) further reduces blood pressure in both normotensives and hypertensives. Therefore, public health strategies must be developed to educate patients.

Atypical Fracture of C2 Vertebra with Cruciate Paralysis - As a False Localizing Sign

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Introduction

Cervical spine injury usually presents with quadriplegia. We report a case of atypical (shear) fracture of C2 vertebra presented with atypical clinical syndrome known as cruciate paralysis as a false localizing sign. Very few such cases have been reported. Atypical fracture of C2 vertebra is very unstable and often difficult to reduce without operation, hence may require surgical stabilization.

Key words: Cruciate Paralysis, Atypical Fracture, C2 vertebra

Case History

A 21 years old male patient sustained injury on right side of the head due to fall of heavy object. The patient complained of neck pain and inability to move all four limbs with loss of bladder and bowel control.

On examination, there was tenderness on upper neck. The patient had deformity of neck, which was tilted on left side. Higher function and cranial nerve examination was normal, with Frankel Grade A neurological involvement. Initial treatment included immobilization of neck with Philadelphia collar and injection methylprednisolone in adequate doses. Routine hematological investigation and X-ray of cervical spine was suggestive of shear fracture of C 2 vertebra with intact tip (dens). Crucified tong was inserted for skull traction.

Clinically patient showed improvement within 24 hours. The muscle power was 4-5 in lower limb, 4 in right upper limb and 2 in shoulder/elbow on left side. Bladder/bowel function also showed improvement. However, power in hand was 0. In spite of weakness of left upper limb, the reflexes were preserved. There was no correction of deformity and fracture was not reduced by traction. CT scan done to know the exact fracture geometry revealed fracture of C2 body in an oblique plane, shearing off in one piece with the dens and with subluxation of C1-C2 articular process. The fragment displaced antero-caudally and dens tilted toward affected side without obvious posterior neural canal compromise (Fig.-1)

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Fig. 1 : CT scan showing shear fracture of C-2 body with intact dens and subluxation of C1- C2 joint on left side.

Operative plan was decided in form of reduction of C1-C2 facet subluxation and fusion by posterior approach. Apofix clamp (meditronic) fixation was done along with graft between C1-C2 vertebras. Right side clamp was first compressed and tighten to get reduction of C1-C2 joints. Reduction was confirmed under Image intensifier. Final compression of clamps was done with interposition of bone graft. Post operative Philadelphia collar was applied. Immediate post operative period was uneventful. Post-operative X-ray showed normal anatomical reduction and deformity of neck was corrected. At two months follow up patient had almost complete neurological recovery (finger grip power 4). At three months follow up flexion/extension view showed improvement in stability and fusion. A final follow up at 12 months showed complete neurological recovery without neck pain although there was mild restriction of rotation (Fig.-2).

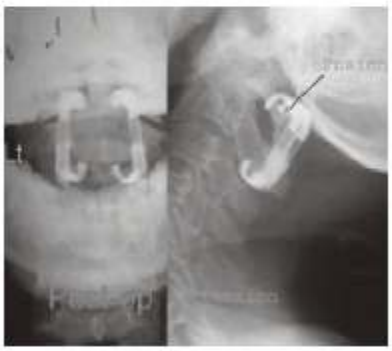

Fig-2 : Post operative x rays showing anatomical reduction of shear fracture of C-2 body and C1-C2 joints.C1-C2 post arch fusion.

Discussion

As per Anderson and d' Alonzo classification dens fracture is classified according to anatomical level of fracture. Type II fracture is common at junction of dens with vertebral body. Indirect force usually cause fracture involving dens and is considered as unstable injury. The present case describes atypical case of undescribed body fracture of C2 vertebra due to lateral hyper-flexion injuries, which cause shear fracture through body of C2 vertebra. The lateral hyperflexion injury resulted into shear fracture of C2 vertebra with C1-C2 joint subluxation. Three cases have been reported so far.

Clinical presentation of this patient was contra lateral left upper limb weakness with preservation of power of both lower limb and right upper limb with preserved reflexes of all limbs (that rule out brachial plexus injury). This is known as cruciate paralysis due to injury to pyramidal decussation at lower medulla/upper cervical cord level.[1] This should be differentiated from central cord syndrome1 and Man-in-barrel syndrome[2], having similar kind of clinical presentations. Previous cases were treated conservatively but one patient had developed facet joint arthritis due to incomplete reduction.[3] The present case achieved good functional outcome from an initially disabling trauma.[4]

In the present case Apofix clamp was used for fixation which is stable in torsion and bending as compare to routing tension bend wiring methods. With anterior approach reduction of facet is not possible and is associated with more morbidity.With posterior approach, anatomical reduction of facet is achieved that indirectly reduces the fracture and promotes fusion of C1-2 vertebra.

Conclusion

Atypical clinical presentation like cruciate paralysis (false localizing sign) should be considered while dealing with fracture of upper cervical spine. As this fracture has good prognosis, proper management is essential. Stable fixation and fusion after reduction provide early mobilization and faster neurological recovery.

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"Ideal teachers are those who use themselves as bridges over which they invite their students to cross, then having facilitated their crossing, joyfully collapse, encouraging them to create bridges of their own."

— Nikos Kazantzakis

Placenta Previa Accreta - Multidisciplinary Approach Saves the Patient

Haresh Doshi, Bhavana Raval**,M. D. Gajjar***, R.K.Jain****, J.C.Makwana*****, Chirag Patel******

ABSTRACT

We report a rare case of placenta previa accreta with profuse bleeding. Obstetric hysterectomy following internal iliac ligation was done. Close monitoring and team work along with timely help from blood bank could save the life of the patient.

Key words: Placenta Previa, Previous Cesarean Section, Placenta Accreta

Introduction

Placenta accreta, increta, percreta are rare but potentially lethal obstetric emergencies. The incidence of placenta accreta is 1 in 2500 deliveries.[1] Removal of the abnormal growth of placenta from uterine wall is difficult and often results in massive blood loss. Sometimes hysterectomy is necessary to save the mother's life. Steadily increasing rate of cesarean section is the common predisposing factor for development of placenta accreta that is associated with considerable maternal morbidity and mortality.

Case Report

A 28 yrs old patient name Bhagvatiben, was admitted on 27th Aug 2009 at Civil Hospital, Ahmedabad as a case of 7 months amenorrhea with intra uterine fetal death (IUFD) and placenta previa - accreta with previous history of cesarean section(CS). Patient had complained of decreased fetal movement since morning. Her expected date of delivery was 15th Aug 2009. She was second gravida with previous full term cesarean delivery for non progress of labour. Unfortunately the baby passed away at the age of 1½ months due to cardiac disease.

On examination her vitals were stable. Anomaly scan done at private center showed placenta previa with accreta. Ultrasonography (USG) at Civil Hospital, Ahmedabad showed maturity of 29-30 weeks, absent cardiac activity, placenta previa type 4 with accreta on colour doppler. Patient was investigated for disseminated intravascular coagulation (DIC) profile and found to be normal.

Elective LSCS was planned for placenta accreta after 4 days. Due to IUFD it was expected that placental circulation will stop and placental sinuses will get thrombosed resulting in to less bleeding at cesarean section. A still birth female child of 1.4 kg was delivered on 31st Aug 2009. Placenta accreta was involving more than half of the placenta. Remaining placenta being easily separable was removed. No attempt was made to remove the portion which was badly adherent. There was excessive blood loss, so blood transfusion (BT) was started. To control the persistent bleeding from suture line internal iliac artery ligation was done.[2] After completing right side ligation, hemostasis appeared satisfactory and abdomen was closed in layers. At the end of surgery, while cleaning vagina, gush of blood was found. The patient's BP dropped to 40 mm of Hg. Uterus was found to be atonic and did not respond to massage and ecobolics . Vasopressors were given but BP was still low and bleeding was continuous. It was decided to reexplore the patient. The uterus was found flabby, not contracting with direct massage and compression. Obstetrics hysterectomy was done rapidly. On completing hysterectomy left adenexal pedicle appeared bleeding profusely so left sided salpingooophrectomy was done. Meanwhile the patient developed DIC resulting in to generalize oozing from vault and pedicles. Pressure hemostasis with mops was attempted which was partially effective. 200 ml hemlock was put in the peritoneal cavity and mass closure of abdomen was done rapidly and drain was kept. Five blood transfusion and six fresh frozen plasma, two platelet concentrate (PC) were given during surgery.

After 4 hrs of surgery the patient was shifted to post operative ward with I.V. dopamine infusion and put directly on ventilator. Patient was extubated after 3 hrs. as per anesthetist's decision and was put on ventimask for continuous oxygen supply. The patient was closely monitored by multipara monitor and CVP line. Investigations of DIC showed increased fibrinogen

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degradation product (FDP) and D dimer with Hb 3.4 gm% and prolonged prothrombin time.

A team of anaesthetists constantly monitored the patient for first three post operative days. Daily adequate number of packed cell volume (PCV), FFP and other components were transfused as per patient's requirement and blood loss from the drain. Total 34 components (16 BT+ 12 FFP+4 PC+2 cryoprecipitates) were given. All these blood components were readily available from the blood bank of Civil Hospital, Ahmedabad. From 5th post operative day patient gradually improved. However, the patient had recurrent fever. On investigation, patient was positive for Hepatitis A and Widal along with raised liver enzymes. Patient was treated as per medical advice. Drain was removed on 7th postoperative day and the sutures were removed on 16th postoperative day. Small gap on lower part of stitch line required dressing for three days and patient was discharged on 21st postoperative day.

Discussion

Placenta accreta is the abnormal adherence of chorionic villi to the myometrium. Usually there is tissue (Nitabuch's layer) intervening between chorionic villi and myometrium. However, in placenta accreta the vascular proliferation of chorion grows directly into the myometrium. Hence, the placenta cannot be separated easily from the wall of uterus after delivery and any such attempts lead to severe bleeding.

The risk of placenta previa is 0.26% with unscarred uterus and increases almost linearly with number of previous CS. The risk of placenta accreta is 5% in placenta previa with unscarred uterus as compared to 24% risk in placenta previa with previous Cesarean Section.[3] So it is essential to keep adequate number of blood transfusion units at surgery.

New technique in the management of placenta accreta includes preoperative uterine artery catheterization and embolization immediately after the baby is delivered. In partial placenta accreta, removal of portion of uterine wall that is morbidly adherent and suturing the remaining of uterus has also been reported successfully. However, once the child bearing is over, hysterectomy is the safest option. A team approach involving obstetricians, anesthetists and support from blood bank is essential to effectively deal with such situation.[4]

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Live Anatomy

Tuje ventricle kahu ya atrium

Tuje pleura kahu ya pericardium

Tuje trachea kahu ya oesophagus

Tuje phrenic kahu ya vagus

Jo bhi ho,Tum meri zindagi ki

coronary artery ho,

S.A. node ho,

Apex beat ho

- Dr.H.R.Jadav

Metastatic Rhabdomyosarcoma

*K.N.Gonsai****, H.M. Goswami***, K.K.Dave**, Ami Shah*, Urvi Parikh**

Introduction

Rhabdomyosacrcoma is a malignant soft tissue tumor of skeletal muscle origin, arising from unsegmented and undifferentiated mesoderm.[1] The most common sites are orbit, nasopharynx, maxillary sinus, middle ear, oral cavity, retro peritoneum, bile duct and genitourinary tract. Rarely it may arise from proximal part of the extremities. It is one of the common tumors in infants and children (3-12yrs.) and rarely seen in adolescence and young adults.[2] We report a case of rhabdomyosarcoma in young female.

Case Report

A twenty years old female presented with complains of swelling in the left side of neck and proptosis of the left eye since 15 days. She was advised fine needle aspiration cytology(FNAC) of neck swelling. On clinical examination, a cervical lymph node measuring 2x2 cm was noted, which was painless, firm to hard in consistency and fixed to underlying tissue. CT scan revealed mass lesion in maxillary sinus compressing orbital fossa and extending up to nasopharynx and posterior fossa that suggested either tuberculosis or lymphoma. Blood mixed material was aspirated by FNAC. Microscopic examination showed high cellularity with minimal lymphoreticular background. The cells were round, moderately pleomorphic with hyperchromatic nucleus and eosinophilic cytoplasm. Cells were arranged in anastomosing sheets. Many multinucleated giant cells and discohesive cells were seen. These findings were suggestive of malignant round cell tumour, probably primary or metastatic rhabdomyosarcoma. Immunocytochemistry of cervical lymph node smear was positive for Desmin, hence the diagnosis of metastatic rhabdomyosarcoma was made. Biopsy and immunocytochemistry of cervical lymph node and maxillary sinus tumour was advised. Histology of both the tumour was suggestive of rhabdomyosarcoma. Hence, it was a confirmed case of metastatic rhabdomyosarcoma with primary in maxillary sinus.

Discussion

The present case presented at an uncommon age of 20 years. The metastasis of sarcomas is through blood vessels. However, rhabdomyosarcoma is one of the few sarcoma metastasized by the lymphatic. The present case presented with the cervical lymph node metastasis. When the tumor is located in orbit, nasal cavity and nasopharynx, it grows rapidly, in infiltrative or destructive manner. CT scan helps to identify the size, spatial relationship and the extent of bone destruction. Cytologically, round pleomorphic cells, with eosinophilic cytoplasm, and multinucleated tumour giant cells were seen. The most common differential diagnosis for the present case was poorly differentiated round cell sarcoma, spindle cell sarcoma and lymphoma.[2] The presence of pleomorphic, round to polygonal cells with dense eosinophilic cytoplasm, eccentric nucleus and star shaped or tad pole like cells (rhabdomyoblast), in the present case, ruled out small round cell tumour of childhood. Lymphoma is a tumor of old age (>45 years) with absence of cross striations and tad pole like cells. Malignant rhabdoid tumor also resembles rhabdomyosarcoma cytologically. However, anatomical site, age of patient and desmin negativity differentiates them. Immunehistochemistry done for diagnostic sensitivity and specificity of muscle is important for final confirmation of diagnosis. Antibody against desmin, muscle specific actin (HHF 35) and myoglobin have been most widely used for diagnostic purpose.[2] Other markers like, creatine kinase, beta enolase, Z protein, titin, and vimentin can be used in the diagnosis of rhabdomyosarcoma, but are less sensitive.[2] In the present case, immunohistochemistry showed desmin positivity. The incidence of lymph node metastasis largely depends upon the location of the tumour, higher with rhabdomyosarcoma of prostate, paratesticular region and extremities than that of orbit, head and neck tumour. Although the incidence of metastasis to lymph node is lower in head and neck rhabdomyosarcoma, in the present case patient presented with metastasis in cervical lymph node and had a primary maxillary sinus tumour. There has been marked improvement in survival rates of rhabdomyosarcoma because of multidisciplinary therapeutic approach consisting of surgical removal of neoplasm and multi agent chemotherapy with or without radiotherapy.

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*** Professor
**** Professor & Head, Pathology
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Laparoscopic Pyloromyotomy in Neonate

Jainendra, Rakesh Joshi**, P.K. Dave****

ABSTRACT

A 16 days old neonate was admitted with complain of projectile non bilious vomiting since last 4 days. The patient was successfully managed by laparascopic pyloromyotomy.

Key words

Neonate, Infantile hypertrophic pyloric stenosis, Laparascopic pyloromyotomy

Introduction

Infantile hypertrophic pyloric stenosis (IHPS) is a condition with pyloric obstruction caused by hypertrophy of the muscle, involving the internal circular layer on gastric side. The enlarged pylorus has an olive shape measuring usually 2-2.5cm length and 1-1.5cm in diameter. The "olive" is pale, contrasting with the pink color of duodenal cul-de-sac. It generally occurs 1 in 250 live birth and predominantly in first male of family. Etiopathogenesis is multifactorial and no single cause has been found yet.[1] The infant with IHPS often start non bilious, projectile vomiting at 3-4 weeks of life and sometimes earlier. The diagnosis of IHPS is made by physical examination in most of the cases. On examination a lump is found in right upper abdomen with visible peristalsis. Diagnosis is confirmed by ultrasonography. Demonstration of pyloric muscle thickness of 4 mm or more and pyloric channel length of 16mm or more increases the specificity of test to 100%. We report a case of IHPS in 16 days old neonate treated with laprascopy with excellent clinical outcome.

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Case Report

A 16 days old neonate was admitted with complain of projectile nonbilious vomiting since last 4 days. The patient was dehydrated. The serum electrolytes and renal function test was normal. On clinical examination, a lump was found just above and to the right of the umbilicus. Ultrasonography examination revealed that the pyloric muscle thickness was 7mm and pyloric channel length was 15mm. The hydration status was corrected, the patient was taken to the operation theatre and laprascopic pyloromyocomy was performed. Three ports (two 5mm and one 3mm) primary 5mm at umbilicus for camera and one 5mm in left hypochoridum and 3mm in right hypochordium were used (Fig.1) Pneumoperitoneum was created with Co_2 insufflation and intraabdominal pressure of 8mm of Hg maintained.[2] Pylorus towards duodenum site was held with grasper introduced through 3mm port and incision was kept over anterosuperior aspect of pylorus, deepened and spread to adequate length till mucosa prolapsed in between two edges of pylorus. Incision was made with knife blade hold in needle holder and introduced through 5mm port. Mucosal injury was ruled out and port site was closed after withdrawal of trocars.

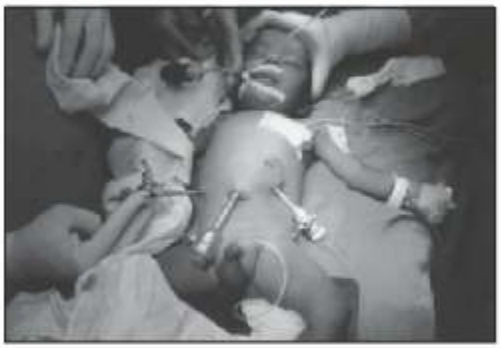

Fig. 1 : Sites of trocar placement

Discussion

IHPS needs surgery to cure the condition and conventionally it is done as an open pyloromyotomy. The first description of laparoscopic pyloromyotomy

was by Alain et al. in 1991. Surgically it is challenging in small babies due to small intraabdominal space to operate, big size liver and intraabdominal urinary bladder. However, it is beneficial to the patient due minimal post operative pain and well accepted scar with shortened hospital stay.[3] The present case was special as the patient was 16 days old baby with 2.6kg body weight. Laparoscopic pyloromyotomy was successfully performed.

Conclusion

With increasing facilities and surgical expertise laprascopic pyloromyotomy can be done successfully. The results compare favorably with that of classical open surgery as "the most consistently successful operation ever described" but with additional potential benefit of shortened hospital stay and of minimum cosmetic deformity.

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NOTIFICATION

New Delhi, the 10th December, 2009

No. MCI-211(1)/2009(Ethics)/55667-In exercise of the powers conferred by Section 33 of the Indian Medical Council Act, 1956 (102 of 1956), the Medical Council of Indian with the previous sanction of the Central Government, hereby makes the following Regulations to amend the Indian Medical Council (Professional Conduct, Etiquette and Ethics), Regulation, 2002 :-

1. (i) These Regulations may be called the "Indian Medical Council (Professional Conduct, Etiquette and Ethics (Amendment) Regulations, 2009 Part I".
   (ii) They shall come into force from the date of their publication in the Official Gazette.
2. In the "Indian Medical Council (Professional Conduct, Etiquette and Ethics) Regulations, 2002" the following additions/modifications/ deletions/substitutions, shall be, as indicated therein :-
3. The following clause shall be added after clause 6.7 :-

"6.8 Code of conduct for doctors and professional association of doctors in their relationship with pharmaceutical and allied health sector industry.

6.8.1 In dealing with pharmaceutical and allied health sector industry, a medical practitioner shall follow and adhere to the stipulations given below :-

(a) **Gifts :** A medical practitioner shall not receive any gift from any pharmaceutical or allied health care industry and their sales people or representatives.

(b) **Travel Facilities** : A medical practitioner shall not accept any travel facility inside the country or outside, including rail, air, ship, cruise tickets, paid vacations, etc. from any pharmaceutical or allied healthcare industry or their representatives for self and family members for vacation or for attending conferences, seminars, workshops, CME programme etc. as a delegate.

(c) **Hospitality :** A medical practitioner shall not accept individually any hospitality like hotel accommodation for self and family members under any pretext.

(d) **Cash or Monetary Grants :** A medical practitioner shall not receive any cash or monetary grants from any pharmaceutical and allied healthcare industry for individual purpose in individual capacity under any pretext. Funding for medical research, study etc. can only be received through approved institutions, by modalities laid down by law / rules / guidelines adopted by such approved institutions, in a transparent manner. It shall always be fully disclosed.

(e) **Medical Research :** A medical practitioner may carry out, participate in, work in research projects funded by pharmaceutical and allied healthcare industries. A medical practitioner is obliged to know that the fulfillment of the following items (i) to (vii) will be an imperative for undertaking any research assignment / project funded by industry for being proper and ethical. Thus, in accepting such a position a medical practitioner shall :-

(i) Ensure that the particular research project(s) has the due permission from the competent concerned authorities;
(ii) Ensure such a research project(s) has the clearance of national/state/institutional ethics committee/bodies;
(iii) Ensure that it fulfills all the legal requirements prescribed for medical research.
(iv) Ensure that the source and amount of funding is publically disclosed at the beginning itself;
(v) Ensure that proper care and facilities are provided to human volunteers, if they are necessary for the research project(s).
(vi) Ensure that undue animal experimentations are not done and when these are necessary they are done in a scientific and a humane way;
(vii) Ensure that while accepting such an assignment a medical practitioner shall have the freedom to publish the results of the research in the greater interest of the society by inserting such a clause in the MoU or any other document/agreement for any such assignement.

(f) **Maintaining Professional Autonomy :** In dealing with pharmaceutical and allied healthcare industry a medical practitioner shall always ensure that there shall never be any compromise either with his/her own professional autonomy and/or with the autonomy and freedom of the medical institution.

(g) **Affiliation :** A medical practitioner may work for pharmaceutical and allied healthcare industries in advisory capacities, as consultants, as researchers, as treating doctors or in any other professional capacity. In doing so, a medical practitioner shall always :

(i) Ensure that his professional integrity and freedom are maintained;
(ii) Ensure that patients interest are not compromised in any way;
(iii) Ensure that such affilations are within the law;
(iv) Ensure that such affiations/employments are fully transparent and disclosed.

(h) **Endorsement :** A medical practitioner shall not endorse any drug or product of the industry publically. Any study conducted on the efficacy or otherwise of such products shall be presented to and / or through appropriate scientific bodies or published in appropriate scientific journals in a proper way".

Ltd. Col. (Retd.) Dr. A.R.N. Setalvad, Secy.

Foot Note : The Principal Regulations namely "Indian Medical Council (Professional Conduct Etiquette and Ethics) Regulations, 2002" were published in part III, Section (4) of the Gazette of Indian on the 6th April, 2002, and amended vide MCI notification, dated 22-2-2003 and 26-5-2004.

Studying at BJMC- A Student's Perspective

*Jayesh Vazirani**

First impressions are often misleading. I distinctly remember my first day at the institute where I spent some of the best years of my life. A mammoth group of 250 was split into two; "X" batch had the soft option of settling their nerves with a gentle introductory lecture, whereas we, the not so fortunate "Y" batch, were commandeered to the dissection hall. Some of us were nervous, others cocky; I'm sure none were quite prepared for the all conquering stench that seemed to permeate every possible orifice and overcome all the senses. That, and the sight of the first cadavers, resulted in three of my colleagues hitting the floor.

Victims of a common atrocity tend to look for safety in numbers; the bonds thus formed often last a lifetime. Thrown together into an overpowering maelstrom, we endured everything from living quarters that barely rose above the benchmark of an urban slum to food that couldn't be called edible by any stretch of the imagination, from sadistic seniors to grouchy tutors, from uncompromising workloads and unreal deadlines to broken hearts. Exams could be hilarious at times; I can't forget the sight of a classmate literally sticking his tongue out at a Professor of Physiology when asked the location of taste buds. These, and countless other shared experiences formed the foundation of relationships that have stood the test of time. Some of my friends are now halfway across the globe; others I keep bumping into every now and then - all of us cherish those unforgettable times.

The first year was spent mostly in lecture halls and labs, with sessions of cutting up corpses thrown in for good measure. The college building is truly an edifice in every sense of the word, with sweeping staircases, high ceilings and a certain inexplicable sense of grandeur one would expect more from a vintage country mansion than a medical school. With time, we moved on to the application of what we were learning, masquerading in the clinics every morning as the full fledged doctors that we were yet to become,. The poetically inclined couldn't possibly miss the poignancy of literally crossing the bridge between the inanimate and the animate, between the stillness of death and the buzz of life when one walked over from the college to the hospital.

We were exposed to the entire spectrum of teachers; from the dazzlingly brilliant pros whose effortless eloquence about their subjects would enthrall, and command your undivided attention, to the inescapable bores who would drone on while we had the choice of a blissful nap, learning to construct more aerodynamic paper planes or text-ing sweet nothings to your object(s) of desire. To be brutally honest, the latter far outnumbered the former, all of whom taken together wouldn't have the numbers to fill the first row of our sizeable auditorium. Some of the faculty evoked instant respect amongst all of us, and still do; it is always a matter of pride for us to have been associated in any small way with them, and the fact that many of them deign to stay in touch is testament to the fact that we weren't that obnoxious a bunch of pupils.

There is a special, uninhibited streak that sets apart students of this institute from others. I vividly remember the massive groundswell of support that was omnipresent whenever there was an issue to be raised, an excess to be protested, a battle to be fought (sometimes quite violently), a protest march or a candle-light vigil to be organized, or of course, a strike call to be enforced. The hooliganism that sometimes came got mixed up in all of this is unpardonable, but on the whole, I would say the institute produced men and women with a spine rather than wimps, people that would rather stand up to intimidation than give in to bribes from the establishment, that would rather endure unfair punishment than squeal on one's mates.

I have had the incredible good fortune of moving on from BJMC to an institute, which in its own right, is just as prestigious; a privilege I would put down more to serendipitous quirks of circumstance than to hours

* Pursuing post graduation at PGIMER, Chandigarh

of burning the midnight oil. PGIMER, Chandigarh has been one of the leading lights of independent India as a centre of excellence in medical education and research, as well as a provider of state of the art treatment to the public. At the risk of sounding patronizing, I would say that having spent almost a couple of years on this magnificent campus, I am in a position to somewhat objectively perceive the relative strengths and weaknesses of BJMC as the tertiary healthcare facility, medical education unit and research centre it purports to be, or the establishment would want us to believe it is.

First, let's get the compliments out of the way. There is no denying the biggest strength BJMC has as a medical school is the quality of its intake. The place attracts the best brains from the state and some quite prodigious talent from across the country. I fervently hope this situation doesn't change. The eclectic mix created on campus by students that contribute different languages, cultures, attitudes, a different point of view, and a new dimension to the monotonous thought process is something to be celebrated and protected, rather than to be threatened and snuffed out.

That BJMC has the luxury of being attached to what I would imagine to be one of the largest teaching hospitals anywhere cannot be denied. Byramjee Jeejeebhoy Medical College is BIG in every sense; a big name to pronounce, a massive student population, a gargantuan patient flow and an extended campus that is an ecosystem unto itself - with all the inherent advantages that size confers on disciples of science. Right away, I cringe at the monumental opportunities that are being lost every day. It is criminal for us not to utilize and exploit the raw data staring us, imploring us to reap the benefits of having access to possibly every single entity known to medical science, and probably many more waiting in the wings. The propaganda machine will tell us that the super specialty institutes on campus are leading efforts in this direction; a simple PubMed search on any of our revered figures will serve as objective, incontrovertible evidence to the contrary. It is high time we start peeping out of our comfortable cocoons, accepting the fact that far from being at the apex of the healthcare pyramid, we are languishing somewhere near the bottom, at least a couple of decades behind contemporary institutes elsewhere in India and possibly half a century behind leading centers worldwide. We should not be content with our position relative to where we were ten years ago, or where the rest of India stands right now. We owe it to ourselves to aspire to be the very best, to aim to be spoken of in the same league as Johns Hopkins and Harvard Medical.

The fact remains that I was, am and will remain a BJ-ite at heart. I am proud of it. This is the place where my foundations in medical science were laid, that gave me my closest friends, the place where I found love, that equipped me to deal with life, the place that has made me whatever I am, that shall forever remain an inseparable part of me.

To my Alma Mater - THANK YOU.

No man can be a good teacher unless he has feelings of warm affection toward his pupils and a genuine desire to impart to them what he himself believes to be of value.

- Bertrand Russell

Students' Activities and Achievements

- **The MCQ test** series conducted by B.J. Medical College for interns has been appreciated by students. It was an excellent effort that provided opportunity to practice and revise important topics at regular interval. Overall it improved the performance by the students.

  Following students secured good position in All India Pre- PG entrance examination :

  1. Nikunjkumar M. Banker
  2. Jay H. Shah
  3. Mitali Desai
  4. Hiren K. Patel
  5. Bhagyadhan A. Patel
  6. Kushal Delhiwala

- **B. J. Alumni Association awarded Gold medals to the following meritorious students at a function held in Nov.2009**

  1. Shri Rambhai N. Amin Public Charitable Trust, Gold Medal" for 1st M.B.B.S. to Purvi K. Limdi
  2. "Late Smt. Ivy E. Best Gold Medal" for 1st M.B.B.S. (Physiology) to Purvi K. Limbdi
  3. "M/s. Torrent Pharmaceuticals, Ahmedabad - Gold Medal" for 2nd M.B.B.S. to Amar S. Suri
  4. "M/s. Torrent Pharmaceuticals, Ahmedabad - Gold Medal" for 2nd M.B.B.S. Pharmacology to Masum D. Shah
  5. "Shri U. N. Mehta Gold Medal" - for 3rd M.B.B.S. Medicine to Hardik M. Soni
  6. "Dr. Manilal Laxmichand Patwa Gold Medal" for 3 rd M.B.B.S. (Obstetrics & Gynecology) to Shrikant S. Somani
  7. "Dr. Agrawal Yamunadat & Dr. Agrawal Kaushal Gold Medal" for M.D. (Obstetrics & Gynecology) to Aartai A. Vazirani
  8. "Dr. E. M. Best Gold Medal" - for M.D. (Physiology) to Manjula H. Jamaliya
  9. "Shri U. N. Mehta Gold Medal" for M.D.(Psychiatry)to Girish H. Banwari
  10. "Shri T. J. Patel Memorial Gold Medal" for M.D. (Radiodiagnosis) to Niharika J. Mahajan
  11. "Dr. Edalji D. Anklesaria Gold Medal" for M.S. (Ophthalmology) to Shwetambari D. Sinhar

- **IPS 1974 Trust prize for securing highest marks in Pharmacology** was awarded to Masum D. Shah(2008) and Jimil H. Shah (2009)

- **Red Ribbon Express**, a specially designed train, for creating awareness regarding HIV/AIDS arrived at Kalupur railway station Ahmedabad from 31st Dec. 2009 to 1st Jan. 2010. Volunteers of N.S.S. unit and Red Ribbon Club of B. J. Medical College, Ahmedabad visited red ribbon express. The visit was a combination of education and entertainment. The information was given by trained volunteers regarding HIV virus, method of its transmission, different stages of AIDS, method of prevention of HIV/AIDS, health facility available for HIV/AIDS etc. using 3-D models, slogans, painting, interactive media touch screen, drama and mimicry etc. There were special arrangement for health check-up and health counseling. Special emphasis was laid on saiyam, faithfulness, safe

sex etc. The role of various stakeholders including the students, teachers, parents, sarpanch, health workers, health officers etc was discussed. The information gained through this visit will be used for better organizing annual world AIDS day celebration and for creating awareness regarding HIV/AIDS at centre for health information at Civil Hospital, Ahmedabad.

- Culfest Horizon2009 at P.S Medical College, Karamsad was well participated by students. Ritema Mangal, Nitisha Kamath, Prutha Maniar, Radhika Kalaria, Grishma Jinadra and Anci Shah of II\II secured second position in the **dance competition**. Fine Arts competitions including **clay painting** was won by Bhavna Solanki, Mittal Kuchhadiya and Devanshi Shah(1st prize) and **t-shirt painting** by Bhavana Solanki (1st prize)
- **Fun Premier League**: Organised by Palash Jaiswal, Shakti Jhala, Rahul Parmar, Nikunj Rathwa and Dhrumin Patel for the II\I batch in December 2009. A new concept of league tournament was introduced wherein the teams were divided into different groups and the best of three was considered for three rounds Super Six, Semi Finals and Finals. The winning team lead by Hiren Bhabhor consisting of Nikunj Rathwa, Rachna Patel, Dhrumin Patel, Vanraj and Nikita Parmar.
- **Badminton Tournament:** Organised by Piyush Damor ,Hiren bhabhor, Aniket Chaudhry from 2nd to 12th December .The winners were Bhanu Pratap (men singles). Bhanupratap and Arpit (men doubles) ,Bhanupratap and Divya(mixed doubles) Rachana and Nikita(women doubles).
- **Table tennis tournament** was organized between 12-15th December by Hardik Jadav and Parth Shah. The winners were Bhanupratap, Hardik, Kamal, Dipen, Nirali, Dhara and Shreya.

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