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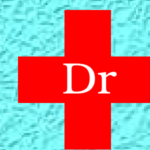

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Know Your President

Prof. Dr. Santanu Sen

Father : Mr Aloke Sen (Retired Service Man)
Mother : Mrs Panna Sen (School Teacher)
Wife : Dr Kakali Sen (Eye Surgeon)
Date of Marriage : 22.01. 1999
Daughter : Miss Soumili Sen (Student of Class XI).
Date of Birth : 26th December, 1972, in the City of Kolkata.
Schooling : Student of Ramakrishna Mission.
Academic : Medical Graduate & Post Graduate (Radiodiagnosis) from R. G. Kar Medical College, Kolkata (1995 & 2000 respectively); Received Gold Medal from Calcutta University in Radiodiagnosis. Got Hony Professorship of IMA.

Involvement in IMA:

- Was actively involved in activities of IMA since 1995.
- Became Couple Life Member of the Pioneer Branch, IMA Calcutta Branch in 2000.
- Held post of Asstt Secy (twice), Dean IMA CGP, Hony Secy of IMA AMS & Finance Secretary of IMA Calcutta Branch.
- Became member of JIMA Committee, Associate Editor of your Health of IMA, Secretary of your Health of IMA, Joint Secretary, IMA (HQ) stationed at Kolkata, Hony. Secretary JIMA & Hony. Joint Finance Secretary of IMA (HQs), stationed at Kolkata.
- Got elected four times as State Secretary of IMA BENGAL STATE & continuing since 2011.
- Received several Awards of IMA Head Quarters.
- Previously was the Trainer in IMA HIV Control Programme & State Coordinator of IMA RNTCP Project.
- Implemented several other projects of IMA.
- Organised several National Events successfully including CWC Meeting in 2017 & National AMSCON 2018 as Organising Secretary.
- In recent past took a lead role in the fight of IMA against NMC Bill under the leadership of Immediate Past President Dr Ravi Wankhedkar & other Mentors of IMA.
- Raised voices several times inside the Parliament during Monsoon Session regarding NMC Bill & many other issues related to Medical Fraternity.
- Despite being a Political Personality always identifies himself as a Doctor & IMA activist first, anywhere & everywhere.
- With the supports of Members and blessings of Seniors, has been elected as National President for the year 2018-2019 with thumping majority.
- Since 1928, when IMA was established in Bengal, Kollata, he is the ninth person of Bengal to hold this most Prestigious Chair which was adorned by the Doyen of Medical Fraternity Dr Bidhan Chandra Roy as first & Sir Nilratan Sircar as second from Bengal.
- In IMA he is impressed & guided by the path shown by the Leader of the Leaders, Past President of World Medical Association, Medical Council of India & National President of IMA Dr Ketan Desai.

Other Engagements :

- Member of Parliament (Rajya Sabha)
- Member of Parliamentary Standing Committee on Health and Family Welfare
- Member of Parliamentary Consultative Committee on Coal
- Member of Parliamentary MP Lad Committee
- Councillor, Kolkata Municipal Corporation (2nd Term)
- Member, West Bengal Medical Council (got highest vote in last Election)
- Member, West Bengal Health Recruitment Board
  Member, Multi Disciplinary Expert Group, Department of Health & Family Welfare, Govt. of West Bengal
- Chairman, Rogi Kalyan Samity of R.G. Kar & Calcutta National Medical College & Hospitals
- Member, Medical Unit of Cricket Association of Bengal (CAB)
- Member, Mohunbagan Athletic Club & East Bengal Club

Hobbies:

- Playing Guitar, Tripple and writing poetry

Professional Attachments :

· As a Consultant Radiologist attached to several Hospitals

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Member

Editorial

Dr Golokbihari Maji
MS (Ortho)
Hony Editor, Journal of IMA (JIMA)

Search for Light

Let me start quoting the "GEETA'S" eternal massage 'what happened in the past was right and good, what is happening today is right and good and what will happen tomorrow will be right and good; we are to serve our duties faithfully, sincerely and honestly'. I do pay my regards to all past Editors starting from the first one Sir Nilratan Sircar who coined JIMA – the Journal of Indian Medical Association to reach to this highest honoured position in the arena of World Medical Literature.

Since, the dawn of civilisation the profession to serve the ailing humanities- latter termed as Medical Science is the most primitive profession in the world. The Medical Sciences crossing the ages of Charak and Sushruta and other great pioneers of the world in this field, have been developing continuously by new discoveries of and in the human body, recognising the ailments with their causes and with introduction and application of newer aids and instruments to save the humanity have reached its highest proficiency as of today.

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Original Article

Assessment of burden, coping skills & depression in parents of children with psychiatric morbidity

Kaberi Bhattacharyya[1], Dilip Mondal[2], Sanjay Sadhukhan[3], Santanu Acharyya[4]

Mental illness in children affects more than just the children - it impacts the entire family specially the parents resulting in stress and depression in them. A positive and effective coping may help to overcome the situation. Our purpose was to compare perceived burden, coping skills and depressive symptoms in parents of children with mental retardation (MR) and attention deficit and hyperkinetic disorder (ADHD) and to compare the same between mothers and fathers of children with different psychiatric morbidity. We also assessed relation between different coping skills with depressive symptoms and burden score. Willing parents of children with psychiatric morbidity with education above 5th standard were assessed for depressive symptoms, perceived burden and different coping skills. Results were analyzed statistically. Both mothers and fathers are found to be similarly depressed. Perceived stress and use of coping mechanism were similar in both groups. Education or income had no effect on depression or perceived burden. Increased use of family coping mechanism helped to reduce stress. Parental distress needs to be assessed by mental health professionals in order to comprehensively address needs of both the child with mental health problems and his or her parent. To improve the condition enhancing coping strategies may help.

[*J Indian Med Assoc* 2019; **117: 11-4 & 17**]

***Key words*: Parents, burden, depression, coping skill, children, psychiatric morbidity.**

Mental illness in children affects more than just the children - it impacts the entire family. Parent caregivers of children with mental illness struggle to meet the needs of their entire family by balancing the needs of their child, other family members, and themselves. They may face challenges such as financial burden, sibling rivalry, stigma, self-doubt and blame, marital stress, and difficulty accessing services, in addition to dealing with the symptoms their child is experiencing[1]. Family caregivers have been described as stressed, with the potential of having more problems than the persons for whom they care[2]. Many studies have found that caring for a child with a disability can be a stressful job for parents[3,4].

Caregivers' burden has been assumed as an overall term to describe the physical, emotional, and economic consequence of providing care[5]. Care giving is a demanding task that places both burden and stress on the caregiver. While stress is a short term response to the pressures of care giving, burden refers to the long-term effects of providing care to a family member. Developmental disabilities have always been an important but largely yet to be addressed public health problem for children in developing countries[6,7].

Department of Psychiatry, Medical College & Hospital, Kolkata 700073
[1]MD (Psy), Assistant Professor
[2]MD (Psy), Professor & Head
[3]MD (Community Medicine), Associate Professor, All India Institute of Hygiene and Public Health, Kolkata 700073
[4]MD (Radiotherapy), RMO *cum* Clinical Tutor, Department of Radiotherapy, Bankura Sanmilani Medical College, Bankura 722102

Due to the influence of a child's disability, it is important that families adopt appropriate and effective coping methods in adjusting to their child's condition(s). A study by McCubbin and colleagues (1983) suggested that exercising family integration, support, and a positive definition of the situation, in addition to maintaining self-esteem, psychological stability, and social support most effectively helped parents adapt to the stress of managing a household with the addition of a child with an illness[8].

There are Indian studies which showed psychological stress and coping strategies in parents with mentally challenged children[9]. However we conducted a study in our outdoor setting with following objectives:

Objectives :

- To compare perceived burden , coping skills & depressive symptoms in parents of children with mental retardation (MR) and attention deficit and hyperkinetic disorder (ADHD).
- To compare the same between mothers & fathers of children with different psychiatric morbidity.
- To assess relation between different coping skills with depressive symptoms and burden score.

Materials and Methods

(1) BDI (Beck depressive inventory, Bengali version)[10]

self rated 21 item scale. This widely used instrument consists of 21 symptoms or attitudes commonly seen in patients suffering from depression (eg, sadness, negative self-concept, sleep and appetite disturbances). The symptoms are rated from '0' to '3' in intensity. The internal consistency for non-psychiatric subjects has yielded a mean coefficient a of 0.81, and the mean correlation of BDI with clinical ratings on the Hamilton Psychiatric Rating Scale for Depression has been found to be 0.74[11,12] suggested caution with regard to the use of the term depression from a single-administration BDI classification and recommend that the term depression should only be used when individuals score above 20 on the BDI. The following cut-off points of depressive symptomatology were used when interpreting the results in the present study[12]: the range of scores from 0 to 9 indicates no depression, 10-20 dysphoria and over 20 depression. Depression scores above 9 are referred to as elevated depression scores. In large samples, the mean BDI score usually falls between 4 and 6, with women usually scoring two points higher than men[11,12]. Cronbach's a for internal consistency in the present study was 0.90.

(2) CHIP (Coping health inventory for parents) — (McCubbin, McCubbin, Patterson & Cauble, 1983) was used to assess parental coping styles and perceptions of the helpfulness of certain strategies. The scale uses a four-point Likert-type scale, ranging from 'not helpful' (0) to 'extremely helpful' (3). Forty-five items are divided into three sub-scales; family (maintaining family integration, co-operation and optimistic definition of the situation), support (maintaining social support, self-esteem and psychological stability), and medical (understanding the medical situation through communication with other parents and professionals)[8].

(3) BASS (Burden assessment scale for schizophrenia) — It aims to assess both subjective and objective burden experienced by primary caregivers of chronic mentally ill patients. Self rated 40 item scale, marked 1-3. Responses would be 'Not at all, to some extent or very much' .Score-40-120[13].

Study area — OPD of Dept of Psychiatry, Medical College and Hospital, Kolkata, West Bengal, India.

Study population — Willing parents of children (age <12years) with psychiatric morbidity with education above 5th standard were taken. Parents with psychotic illness or mental retardation were excluded from the study. Cases were divided into 3 groups according to disorders in their offsprings.1.MR 2ADHD 3.Others (childhood depression, obsessive compulsive disorder etc). Duration of seeking medical help was more than1year.

All 3 scales are given to the parents and scores were analyzed.

Statistical methods — Scores of different groups were compared using t test. Bivariate correlation was carried out to assess correlation between different parameters.

Observations

Demographic profile-Among 61 parents 19 (31.1%) were male and 42 (68.9%) were female of which 36 (59%) came from urban and 25 (41%) from rural background. In 44 (72%) of the study population had school going children. In 15 (24.6%) parents had children with MR, 26 had (42.6%) ADHD and rest 20 (32.8%) had offspring with other disorders. Average per capita monthly income was Rs1955±235. Mean age of parents was 35±4.6 years and mean year of education -9.4±3.2years

Our finding was 66% of the parents had BDI score more than 9 of which 78% were mothers though the difference was not significant. There was no significant difference in burden score or use of different coping skills between mothers and fathers (Table 1).

Depression and burden are same in parents with MR and ADHD children (Table 2).

Table 1 — *BDI & BASS scores in mothers & fathers of affected children*

	BDI mean (SD)				BASS mean (SD)			
		T statistics	Degree of freedom	P< (2 tailed)		T statistics	Degree of freedom	P < (2 tailed)
Fathers (n=19)	10.89 (8.67)				66.68 (10.62)			
Mothers (n=42)	15.07 (8.34)	-1.7	59	0.079	67.35 (13.70)	-0.189	59	0.8510

Table 2 — *BDI scores in MR & ADHD parents*

	BDI mean (SD)				BASS mean (SD)			
		T statistics	Degree of freedom	P< (2 tailed)		T statistics	Degree of freedom	P < (2 tailed)
MR (n=15)	18.13 (10.88)				72.80 (13.64)			
ADHD (n=26)	12.80) (6.93	1.91	39	0.063	68.73 (11.95)	0.99	39	0.32

More years of formal education or increased income didn't help to reduce perceived burden or depression (Table 3).

Among the three Coping subscales family coping scale helped to reduce both depression & perceived burden (Table 4).

Discussion

Our first important finding was both mothers and fathers had depressive symptoms and they didn't differ in perceiving burden or using coping strategies in dealing with the situation. The traditional role of mother is familiar, and the influence of maternal behavior on young children including the influence of children's behavior on mothers is well researched. Knowledge, however, of the comparable role of the father and paternal influences on children's development as well as the child's influence on fatherhood is relatively limited. Father's contributions are often forgotten in the research literature[14] and particularly father's roles with children of abnormal development[15]. The very few studies that have included fathers have usually found normal depression scores or reduced symptoms of depression in fathers of children with disabilities than in mothers[16,17]. Studies of parents with children with disabilities suggest that 35-53% of mothers with children with disabilities pass cut-off scores for depression[16,18]. However, many of these studies rely on small samples which still make inferences about the prevalence of depression uncertain. Depending on how depression is defined and assessed, lifetime prevalence rates for diagnosable depressive disorders in large population studies range from 2.6% to 12.7% in men, and 7% to 21% in women. There have been a few studies demonstrating both similarities and differences in parenting stress reports between mothers and fathers of children with and without disabilities[16]. One robust and consistent finding among the literature has been that of differences between mothers and fathers of children with and without disabilities with respect to parent-related characteristics of parenting stress. Specifically, mothers reported more depression, restrictiveness in the parental role, more problems with their sense of competence, more difficulties with their relationship with their spouse, and more negative effects on their health. Fathers reported significantly more problems with attachment, which has been a fairly consistent finding in the literature[19,20]. Among Indian studies G Venkatesh Kumar also found that gender of the parents didn't have any impact on psychological stress or coping score[9].

Table 3 — *Correlation of BASS or BDI score with education and income*

	R (pearson's correlation)	p
Education (in yrs) & BDI	-0.19	0.143
Education (in yrs) & BASS	-0.242	0.060
Income (per capita) & BDI	-0.164	0.207
Income (per capita) & BASS	-0.114	0.381

Table 4 — *Correlation of BASS or BDI score with different coping subscales*

BDI & family coping	-0.424	0.001
BDI & support coping	-0.147	0.259
BDI & medical coping	-0.198	0.126
BASS & family coping	-0.352	0.005
BASS & support coping	-0.089	0.497
BASS & medical coping	-0.186	0.151

Our next important finding was parents of children with ADHD and that of MR didn't differ in terms of BDI and BASS score. AP Walker also found that parents of children with ADHD and developmental disabilities did not differ in their perceptions of stress related to the child; however, they did differ with respect to specific child characteristics as measured on the sub-scales of the child domain eg, Distractibility/Hyperactivity, Adaptability, Reinforces Parent, Demandingness, Mood, and Acceptability[21]. Baker & McCal (1995) also discussed similar results in that parents of ADHD and learning disabled children[22].

Another finding was more years of formal education or increased income didn't help to reduce perceived burden or depression in parents. This is in contrast with the finding of G Venkatesh Kumar who found that educational level had significant influence over psychological stress and coping; higher the educational level lesser was the psychological stress and higher coping strategies. Most of the mothers who were educated sought professional help for coping and were also able to provide appropriate and timely treatment for various problems of the child[9]. Like us A P Walker also found that socioeconomic condition was not associated with depression in fathers but lower income was associated with higher depressive symptoms in mothers[21]. McBride (1991) in his study of 54 fathers of pre-school children found the only consistent demographic variable related to paternal stress was family income. Fathers with greater family incomes reported feeling less restricted in their parental roles, more competent as parents, less isolated socially, as having better relationships with their spouses, and considered them to be in better health[23]. Hornby (1994) in a study of fathers of school-aged children with Down syndrome found significant inverse relationships between fathers' level of stress and their educational level, as well as their perceived financial adequacy[24]. Lavee *et al* (1996) looked at the effect children had on parental stress and the parents' marital quality. They found that the economic status of the parents added substantially to both mothers' and fathers' level of distress. Specifically, the lower the economic status the greater level of distress[25]. Pittman *et al* (1989) demonstrated similar results when they found that lower income was associated with greater parenting difficulties[25].

Among the three Coping subscales family coping scale helped to reduce both depression and perceived burden. Greater marital quality predicted lower parenting stress for both mothers and fathers, while greater social support predicted increased parenting efficacy for fathers[27]. M B Olson in 2001 noted that Single mothers with children with disabilities were more vulnerable to severe depression than mothers living with a partner, which supports the findings by Blacher & Lopez (1997)[28,29]. This, along with the fact that poorer family functioning is associated with higher stress and depression in families with children with disabilities[20,30], supports the suggestion that support for marital and cohabitational relationships, and the prevention of domestic discord may be some of the best ways to promote parental mental health in families with children with disabilities[31,32]. Gill and Harris (1991) measured the psychological distress of 60 mothers of children diagnosed with Autism to examine the effects of social support and

hardiness. Researchers found a significant negative correlation between mothers who perceived adequate available social support and depressive symptoms, indicating that those mothers who had the most perceived support had the fewest depressive symptoms[33]. Jessica Jones et al in their study revealed that coping strategies involving the maintenance of family integration, co-operation and optimism were strongly associated with reduced stress relating to overall family cohesiveness, the parent's perceptions of reward or satisfaction in caring for their child, and their concerns regarding future care of their child and the possibility of institutionalization[34]. Trute and Hauch (1988) found a strong correlation between family cohesion and coping strategies such that parents reporting active coping skills could discuss and debate alternative choices while maintaining a high commitment and responsibility to one another[35].

The main limitation of our study was we were able to include only two groups and there was no control group. We also failed to sub classify these two groups according to severity because of small sample size. We also failed to control the study population as far as medication was concerned because most of our ADHD and few of MR patients were on medication.

However it is evident that raising a child with mental health problem results in parental distress. Distress needs to be assessed by mental health professionals in order to comprehensively address needs of both the child with mental health problems and his or her parent. Furthermore, assessing the amount support available to a caregiver would provide the opportunity to discuss options for increasing supportive resources. Additional support might help to ameliorate the stressful effects of the child behavior problems and prevent a state of continuous distress for these parents[36].

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Observational Study

Evaluation of awareness and practice of pharmacovigilance among medical practitioners

Patil Sunita S[1], Khanwelkar Chitra C[2], Patil Sunil K[3]

The recent launch of National Pharmacovigilance program which is still in infancy. In India, problem is under-reporting of ADRs. This study was aimed at investigating the knowledge, attitude and awareness about ADR reporting among doctors in teaching hospital, practitioners and third year MBBS students. The survey questionnaires were distributed to three groups of medical practitioners and MBBS students. 1st group (n=36) includes clinicians and post graduates in medical college. 2nd group (n=30) includes private practitioners. 3rd group (n=40) includes IIIrd year MBBS students. In 83.3% institutional clinicians, 86.6% private practitioners and 80% students were aware of Pharmacovigilance and ADR monitoring system. ADR reporting was practiced by 0% institutional and 13.3% private practitioners, ($p<0.05$). 83.4% institutional doctors, 70% private practitioners and 75% students were not aware of spontaneous reporting. 72.2% institutional doctors, 56.6% private practitioners and 37.5 students said direct ADR reporting by patients should not be allowed,($p<0.001$). 67% institutional doctors, 57% private practitioners and 80% students said Pharmacists should be involved in ADR reporting. In 17% institutional doctors, 47% private practitioners and15% students had knowledge of causality assessment, ($p<0.001$). Thus there is dire need of creating awareness for ADR reporting among practicing doctors and post graduates who are future doctors. Awareness of Pharmacovigilance and activities related to this should be included in undergraduate syllabus. The effective Pharmacovigilance and ADR reporting in India is possible only if training of all health professionals is done effectively and made mandatory by MCI. [*J Indian Med Assoc* 2019; **117:** 15-7]

Key words : **Pharmacovigilance, ADR monitoring, Spontaneous reporting system.**

Drug safety monitoring is an essential element for the effective use of medicines and for high quality medical care. India a population of over 1.22 billion has vast ethnic variability, different disease prevalence patterns, parallel practices of different systems of medicines and different socioeconomic status. Adverse drug reactions (ADRs) are global problems of major concern, which may lead to increase morbidity and mortality[1,2]. It also has a major impact on public health by imposing a considerable economic burden on the society and the already stretched health care systems[3]. Hence it is important to have standardized and robust Pharmacovigilance and safety monitoring program for the nation. By definition Pharmacovigilance is, "The science and activities relating to the detection, assessment, understanding and prevention of adverse effects or any other drug-related problems". Pharmacovigilance is an important and integral part of clinical research, both clinical trial safety and post-marketing. Pharmacovigilance is one of the important post-marketing tools in ensuring the safety of pharmaceutical and related health products.

Department of Pharmacology, Dr DY Patil Medical College, Maharashtra 416006

[1]MD, Pharmacology, Assistant Professor and Corresponding author

[2]MD, Pharmacology, Associate Professor and Head, Department of Pharmacology, Krishna Institute of Medical Sciences, Maharashtra 415110

[3]MD, Pathology, Medical Officer, Department of Pathology, Civil Hospital, Maharashtra 416006

Since 1978 the Programme has been carried out by the Uppsala Monitoring Centre (UMC) in Sweden. The Uppsala Monitoring Centre is responsible for the collection of data about adverse drug reactions from around the world, especially from countries that are members of the WHO including India. In India the Ministry of Health & Family Welfare has initiated the Pharmacovigilance Programme of India (PvPI) which is co-ordinated by the Central Drugs Standard Control Organization (CDSCO). The programme is coordinated by the Indian Pharmacopeia commission, Ghaziabad as a National Coordinating Centre (NCC). Under this programme there are different ADR monitoring centers(AMCs), asked to work cohesively to improve ADR reporting in India.

The recently launched national Pharmacovigilance program which is still in infancy. In India, problem is under-reporting of ADRs[4,5], due to many factors like financial incentives, rewards for reporting, legal aspects, lack of ADR related knowledge and attitudes. It is estimated that only 6–10% of all ADRs are reported[6]. This high rate of under-reporting can delay signal detection and consequently impart negatively on the public health. Post marketing surveillance of drugs is very important in analyzing and managing the risks associated with drugs, once they

are available for the use of the general population. Spontaneous reporting has contributed significantly to successful Pharmacovigilance in U.K by using yellow card system.

The contribution of health professionals, in this regard to ADRs databases is enormously significant and has encouraged ongoing ascertainment of the benefit-risk ratio of drugs[7,8]. Pharmacovigilance programme in India would be successful only through a coordination and dedicated effort of health care professionals. This study was therefore aimed at investigating the knowledge, attitudes and awareness of doctors towards ADR reporting in a teaching hospital, practicing doctors and third year MBBS students and to suggest possible ways of improving spontaneous reporting based on our findings.

Matarials and Methods

Study setting Questionnaire based cross-sectional study after approval from IEC, conducted in D.Y Patil medical college Kolhapur, Maharashtra. 106 medical professionals including consultants, residents, final year MBBS students in teaching hospital, and private practitioners, were included in the study. The doctors who were not willing to participate in the study and the ones who were on leave were excluded.

Methodology

The survey questionnaire with 10 questions were distributed to three groups ie, Group 1 (n=36) included clinicians and post graduates working in medical college. Group 2 (n=30) included private practitioners and Group 3 (n=40) includes IIIrd year MBBS students. The questionnaire was adapted from the previous studies and improvised by peer discussion . The questions were structured to obtain the information about the knowledge, attitude, awareness towards Pharmacovigilance and ADR reporting practice and factors influencing this attitude. Provision was also made for suggestions on possible ways to improve ADR reporting.

Initially the workshop on Pharmacovigilance was conducted in the medical college. The questionnaires were distributed through the various Heads of Departments in hospital, third year medical students and private clinicians, allowed to stay with them for 4 weeks so as to allow them enough time to attend to the questions. While retrieving the questionnaire the same copy was re-administered to those who could not produce the previous copy given to them. This is to encourage non-respondents to participate in the study. Questionnaires were collected and analyzed question wise and there percentage values were calculated. Statistical analysis was done by applying "chi square test".

Observations and Results

As given in table 83.3% institutional clinicians, 86.6% private practitioners and 80% students were aware of Pharmacovigilance and ADR monitoring system. ADR reporting was practiced by 0% institutional and 13.3% private practitioners. Thus Significant difference was seen in these two groups($p<0.05$)(Table 1). 75% students said they were sufficiently made aware about ADR reporting. 83.4% institutional doctors,70% private practitioners and 75% students were not aware of spontaneous reporting. 72.2% institutional doctors, 56.6% private practitioners and 37.5% students said direct ADR reporting by patients should not be allowed. Thus highly significant difference was seen in these three groups ($p<0.001$). 67% institutional doctors,57% private practitioners and 80% students said pharmacists should be involved in ADR reporting. In 17% institutional doctors, 47% private practitioners and 15% students had knowledge of causality assessment. Thus highly significant difference was seen in these three groups ($p<0.001$). All three groups said, this system is going to benefit the patients and they wanted to know more about this system.

Discussion

The present study evaluated the knowledge, attitude and practice of Pharmacovigilance in healthcare professionals. Over all they are aware about Pharmacovigilance system held in India, but do not know how it actually works and where to report ADRs.

Pharmacovigilance programs have played a major role in detection of ADRs of drugs from the market[9]. However, under reporting of ADRs is one of the major problems associated with pharmacovigilance programs. In our study we found none of institutional doctor has reported any of the ADRs. Few ADRs were reported by private practitioners. Thus it is very important to bring awareness of ADR reporting among them as they are frontier level healthcare professionals, who are actually going to report ADRs.

A study from Northern India reported that the knowledge, attitude and practice regarding ADR monitoring among students and prescribers was comparable but need further improvement[10]. A study from Italy reported that doctors had little information concerning ADRs and ADR reporting systems[11].In our study we identified that there is awareness about Pharmacovigilance program, but actual ADR reporting was very low among the doctors. This finding suggests need for improvement and sensitization of

Table 1 — *Showing Pharmacovigilance and ADR monitoring system and others*

	Institutional clinicians	Private practitioners	IIIrd MBBS Students	'p' value
Awareness of Pharmacovigilance & ADR monitoring system	83.3%	86.6%	80%	0.76
Awareness of ADR reporting	83.4%	70%	75%	0.43
ADRs reported	0%	13.3%	Question not included	0.03*
Awareness of spontaneous reporting	83.4%	70%	75%	0.43**
ADR reporting by patients not recommended	72.2%	56.6%	37.5%	0.096
Pharmacists involvement	67%	57%	80%	0.055
Knowledge of causality assessment	17%	47%	15%	0.0039**

*Significant ($p<0.05$)
**Highly significant ($p<0.001$) by applying chi square test.

the healthcare professionals to report ADRs. In our study many suggestions were given by doctors, like, Simple ADR filling form, A toll free phone number to report, ADR,Feedback should be given, keeping drop box in hospital , awards to boost, frequent workshops and CMEs to be arranged on ADR reporting and Pharmacoviglance.

Conclusion

Awareness of Pharmacovigilance system has been increased, but actual ADR reporting is lacking. Thus there is dire need of creating awareness for ADR reporting among practicing doctors and post graduates who are future doctors. Awareness of Pharmacovigilance and activities related to this should be included in undergraduate syllabus. The effective Pharmacovigilance and ADR reporting in India is possible only if training of all health professionals is done effectively and made mandatory by MCI.

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Observational Study

Rapid Test (Immunochromatography) *Versus* Real Time RTPCR in diagnosis of Influenza-A

Mohd Raheem Hussain[1], S V Prasad[2], P N S Reddy[3], A Sai Kumar[4], M Vijay Kumar[5]

This is a Prospective study comparing the Efficacy of Rapid Test (Immunochromatography/OSOM Influenza-A & B) *Versus* Real Time RTPCR in diagnosis of Influenza-A. In 50 Influenza suspects were identified using CDC definition of Influenza suspect & their nasal swabs were subjected to Rapid test for Influenza-A virus (Immunochromatography/ OSOM Influenza A & B) on the spot at Government General & Chest Hospital, Hyderabad, The Nasal & Throat swabs of these suspects were simultaneously subjected to Real time –RTPCR for Influenza-A Virus, H1N1A (Pandemic Influenza-A) virus at IPM, Hyderabad during the period from October 2009 to June 2010. In 16 patients were positive for Influenza-A by Real TimeRTPCR & out of them 13 patients are Positive for H1N1 Influenza-A (& only 2 of these 13 patients were positive with Rapid test) & 3 patients are Positive for seasonal Influenza-A (None of them were Positive with rapid Test). Sensitivity of Rapid Test for screening of Influenza-A appears to be very low in this small study.

[*J Indian Med Assoc* 2019; **117**: 18-21]

Key words **: Rapid Test (Immunochromatography), Real Time RTPCR, Influenza-A.**

In late March and early April 2009, an outbreak of H1N1 influenza A virus infection was detected in Mexico, with subsequent cases observed in many other countries including the United States[1,2]. On June 11, 2009, the World Health Organization raised its pandemic alert level to the highest level, phase 6, indicating widespread community transmission on at least two continents[3].

On August 10 2010 WHO Director General declared end of H1N1 Pandemic and announced that the H1N1 Influenza event has moved into post pandemic phase.The pandemic that began in March 2009 was caused by an H1N1 influenza A virus that represents a quadruple reassortment of two swine strains, one human strain, and one avian strain of influenza.

Aims & Objectives :

There is a paucity of literature regarding the efficacy of Rapid tests (Immunochromatography /OSOM Influenza-A& B) in the screening of Influenza-A especially in our Indian population. Presently Influenza A is diagnosed by Real Time Reverse Transcriptase Polymerase Chain Reaction (RRT-PCR) which is more sensitive & specific. RRT-PCR cannot be used for Screening because it is very costly, requires sophisticated lab with Biosafety Level 2 or more & it is available at very few places in India hence this study was conducted .

Rapid Tests can be done at the point of care & do not require sophisticated Laboratory, Result is available with in 10 minutes, less cumbersome, do not require Laboratory Personnel.

Study Design :

This is a Prospective comparative study.

This study was considered as a minimum risk in human research and was approved by the ethics committee of the Institute

Materials and Methods

Procedure :

Inclusion Criteria :

(1) Patients with symptoms of Influenza like illness ranging from 0 to 10 days duration.

(2) Symptomatic contacts of H1N1A positive patients.

Exclusion Criteria :

(1) Patients with symptoms of Influenza like illness of >10 days duration.

(2) Asymptomatic contacts of H1N1A positive patients.

Results and Analysis of Data :

Fifty Influenza suspects were identified using CDC definition of Influenza suspect & their nasal swabs were subjected to Rapid test for Influenza virus (Immunochromatography/ OSOM Influenza A & B) which was done on the spot at Government General & Chest Hospital, Hyderabad which gives results with in 10 minutes & also their Nasal & Throat swabs were simultaneously subjected to RRT-PCR for Influenza virus at Institute of Preventive Medicine, Hyderabad which gives result with in 1day.The study was conducted during the period from October 2009 to June 2010 (Flu Pandemic period) .

These patients were divided into 2 groups basing on the result of RRT-PCR.

Group A : In 34 patients, Influenza A was negative by RRT-PCR & also by rapid test .They were considered as control group.

Group B : In 16 patients, Influenza A was positive by RRT-PCR. Out of 16 patients, 13 patients were H1N1A positive by RRT-PCR (out of them 2 patients are Positive with even Rapid test) & 3 patients were Positive for Seasonal Influenza-A (Rapid test was negative in all 3 of them). In Group B only 2 patients were Positive with rapid test & 14 patients were negative with rapid test. These 16 patients were considered as cases.

Fourteen variables as mentioned below were taken into consideration (including 6 comorbidities). Between the 2 groups only history of traveling abroad is statistically significant as a risk factor for H1N1 Influenza-A during the pandemic period. Results were analysed by Windostat Version[8,6].

Demographic Profile of patients

(1) Age :

- Upto 10 years

(a) GroupA: 0 , (b) Group B:1

- 11 to 20 years

(a) GroupA: 9, (b) Group B:1

- 21 to 40 years

(a) GroupA: 19, (b) Group B:12 (rapid test was positive for Influenza-A in 2 patients)

- 40 to 60 years

(a) GroupA: 6, (b) Group B:2

(2) Sex Distribution:

- Males

(a) GroupA:20, (b) Group B:11(rapid test was positive for Influenza-A in 1 patient)

- Females

(a) GroupA:14, (b) Group B:5(rapid test was positive for Influenza-A in 1 patient)

(3) Duration of Symptoms :

- Upto 3 days

(a)GroupA:11, (b)Group B:4

- 4 to 7 days

(a) GroupA:21, (b) Group B:12 (rapid test was positive for Influenza-A in 1 patient)

- 8 to 10days

(a) GroupA:2, (b) Group B:0

(4) H/O travel abroad :

(a)GroupA:0, (b)Group B:3(rapid test was positive for Influenza-A in 1 patient)

(5) H/O contact with Influenza A positive patient :

(a)GroupA:2, (b) Group B:2 (rapid test was positive for Influenza-A in 1 patient)

Clinical Features:

(6) Running Nose :

(a) GroupA:21, (b) Group B:11 (rapid test was positive for Influenza-A in 2 patients)

(7) Sore Throat :

(a) GroupA:11, (b) Group B:6 (rapid test was positive for Influenza-A in 2 patients)

(8) Chest X ray, suggestive of consolidation :

(a) GroupA:11, out of them 2 patients Sputum for Gram stain & Culture was positive for Klebsiella pneumoniae

(b) Group B:6

Comorbities :

(9) Diabetes Mellitus:

(a) GroupA:1, (b) Group B:2

(10) Pregnancy :

(a) GroupA:0, (b)Group B:2

(11) Obstructive sleep apnoea :

(a) GroupA:0, (b) Group B:1

(12) Epilepsy :

(a) GroupA:0, (b) Group B:1

(13) COPD :

(a) GroupA:0, (b) Group B:1

(14) Hypertension :

(a) GroupA:1, (b) Group B:1

Analysis of Data :

Analysis of Data in terms of Sensitivity, Specificity, PPV, NPV of Rapid test in Comparision with RRT-PCR:

The Sensitivity, Specificity, PPV, NPV of Rapid test in comparision with RRT-PCR were 12.5%, 100%, 100% & 70.83% respectively.

Discussion

50 Influenza suspects were identified using CDC definition of Influenza suspect & their nasal swabs were subjected to Rapid test for Influenza virus (Immunochromatography/ OSOM Inf A & B) on the spot at Government General & Chest Hospital, Hyderabad which gives results with in 5 to 10 minutes & also their Nasal & Throat swabs were simultaneously subjected to RRT-PCR for Influenza virus at IPM, Hyderabad which gives result with in 1day. The study was conducted during the period from October 2009 to June 2010.

These patients were divided into 2 groups basing on the result RRT-PCR.

[1]MD, Department of Pulmonary Medicine, Osmania Medical College, Government General & Chest Hospital, Hyderabad 500038. Presently : Junior Consultant, Department of Pulmonary Medicine, Care Hospital, Hyderabad 500020 and Corresponding author

[2]MD, DTCD, FCCP, Professor, Department of Pulmonary Medicine, MNR Medical College, Sanga Reddy, MEDAK District, Andhra Pradesh 502294

[3]MD, DTCD, MNAMS, FCCP, Senior Pulmonologist Yashoda Hospital, Hyderabad 500082

[4]MD, Professor & Head, Osmania Medical College, Government General & Chest Hospital, Hyderabad 500038

[5]MD, Assocaite Professor, Gandhi Medical College, Government General & Chest Hospital, Hyderabad 500038

Observed Frequencies

	1 Col	2 Col
1 Row	**2.** 0.64	**.** 1.36
2 Row	**14.** 15.36	**34.** 32.64

χ^2 Pearson	4.42668	Two sided	0.03538
χ^2 Yates Corrected	1.77005	Two sided	0.18338
χ^2 Mantel-Haenszel	4.33814	Two sided	0.03727
Fisher's Exact Test			
Odd's Ratio: significantly different from 1		Two sided	0.09796
Odd's Ratio: significantly < 1		Left sided	1.00000
Odd's Ratio: significantly > 1		Right sided	0.09796
Rosner: 2 * minimum(0.5, Left-Tail, Right-Tail)		Two sided	0.19592

Test Statistics	**Value**	**95% Confience Interval Lower**	**Upper**
Odds Ratio	48571.4300	0.5257	
Relative Risk	3.4284	0.6215	3.4286
Kappa	0.1627	-0.0282	0.1627
Sensitivity	0.1250	0.0252	0.1250
Specificity	1.0000	0.9531	1.0000
+ve Predictive Value	1.0000	0.2019	1.0000
-ve Predictive Value	0.7083	0.6751	0.7083
Difference in Proportion	0.7083	-0.1230	0.7083
Nos Needed to Treat	1.4119	1.4118	infinite
Overall Acuuracy	0.2800		
Prevalence Rate	0.6800		
Youden's J Index	0.1250	-0.0217	0.1250
Phi Coefficient	0.2975	-0.0517	0.2976
Yule's Q	1.0000	-0.3108	1.0000
Contingency Coefficient	0.2852	0.2852	0.2852
Adj. Contingency Coefficient	0.4033	0.4033	0.4033
Diagnostic Odd's Ratio	48913.0200	0.5257	
Error Odd's Ratio	0.0000	0.0013	
Forbes NMI Index	0.0755	0.0023	0.0756

Group A : In 34 patients, Influenza A was negative by RRT-PCR & also by rapid test . They were considered as control group.Out of them 2 patients Sputum for Gram stain & Culture was positive Klebsiella pneumoniae.

Group B : In 16 patients, Influenza A was positive by RRT-PCR. Out of 16 patients, 13 patients were H1N1A positive by RRT-PCR (out of them 2 patients are Positive with even Rapid test) & 3 patients were Positive for Seasonal Influenza-A (Rapid test was negative in all 3 of them).In Group B only 2 patients were Positive with rapid test & 14 patients were negative with rapid test. These 16 patients were considered as cases.

14 variables were taken into consideration (including 6 comorbidities) Between the 2 groups only history of traveling abroad is statistically significant as a risk factor H1N1 influenza-A virus infection during the pandemic period . Results were analysed by Windostat Version 8.6.

31 Suspects (62% of Suspects) were in the age group of 21 to 40 yrs & out of them, 12 patients in Group B (75% of Group B) were positive with real time RTPCR for Influenza-A & 2 patients were positive with Rapid test for Influenza-A.

8 suspects (16%) were in the age group of 40 to 60 yrs & out of them, 2 patients in Group B (12.5% of Group B) were positive with real time RTPCR for Influenza-A.The p value for ANOVA for age between Group A and Group B is 0.78275 & is hence statistically not significant.

31 Suspects (62% of suspects) were males & out of them, 11 patients in Group B (75% of Group B) were positive with real time RTPCR for Influenza-A.The p value for ANOVA for sex differentiation between Group A and Group B is 0.50989 & is hence statistically not significant.

15 suspects (30%) included in the study presented with duration of onset of symptoms of upto 3 days & out of them,4 patients in Group B (25% of Group B) were positive with real time RTPCR for Influenza-A.

33 suspects (66%) included in the study presented with duration of onset of symptoms from 4 to 7 days & out of them,11 patients in GroupB(75% of Group B) were positive with Real time RTPCR for Influenza-A & 2 patients were positive with rapid test for Influenza-A.

2 suspects included in the study presented with duration of onset of symptoms >7days & None of the were positive with Real Time RTPCR for influenza-A.

The p value for ANOVA for duration of onset of symptoms between Group A and Group B is 0.81412 & is hence statistically not significant.

History of Travelling abroad was found in 3 suspects (6% of suspects) & all 3 of them in Group B (18.75% of group B) were positive with Real time RTPCR for Influenza-A & only 1 patient was positive with rapid test for Influenza-A.

The p value for ANOVA for History of Travelling abroad between Group A and Group B is 0.00850 & is hence statistically significant as a risk factor H1N1 influenza-A virus infection during the pandemic period.

History of Contact with H1N1 Influenza-A positive

patient was found in 4 (8%) of suspects & out of them,2 patients in Group B (12.5% of GroupB) were positive with Real time RTPCR for Influenza-A & only 1 was positive with rapid test for Influenza-A . The p value for ANOVA for History of Contact with H1N1 Influenza-A positive patient between Group A and Group B is 0.43139 & is hence statistically not significant.

Clinical features such as Running nose was found in 32 (64%) suspects & out of them 11 patients in Group B (8.7% of Group B) patients were positive with Real time RTPCR for Influenza-A & 2 patients were positive with rapid test for Influenza-A.

Sore Throat was found in was found in 17 (64%) suspects & out of them, 6 patients in GroupB(37.5% of Group B) were positive with Real time RTPCR for Influenza-A & 2 patients were positive with rapid test for Influenza-A.

Chest X Ray, suggestive of Consolidation was found in was found in 17 (34%) suspects & out of them,6 patients in Group B (37.5% of Group B) were positive with Real time RTPCR for Influenza-A.

Comorbities such as Diabetes Mellitus was found in 3 (6%) suspects & out of them 2 patients in Group B (12.5% of Group B) were positive with Real time RTPCR for Influenza-A.

2 (4%) suspects were pregnant & all of them in Group B (12.5% of Group B) were positive with Real time RTPCR for Influenza-A.

Obstructive sleep apnoea was found in 1 (2%) suspect & same patient in Group B (6.5% of Group B) was positive with Real time RTPCR for Influenza-A.

1 (2%) suspect was epileptic & same patient in GroupB was positive (6.5% of Group B) with Real time RTPCR for Influenza-A.

1 (2%) suspect was suffering from COPD & same patient in Group B (6.5% of Group B) was positive with Real time RTPCR for Influenza-A.

2 suspects were Hypertensive & out of the them, 1 patient in Group B (6.5% of Group B) was positive with Real time RTPCR.

The Sensitivity, Specificity, PPV, NPV of Rapid test (Immunochromatography/ OSOM Influenza A & B) in comparision with RTPCR were 12.5%, 100%, 100% & 70.83% respectively.

Hence this rapid test for Influenza-A virus (Immunochromatography/ OSOM Influenza A & B) has very low sensitivity.

The higher sensitivity of rapid tests are reported from USA and other western countries,probable reason could be that they use nasopharyngeal aspirates for testing not the usual Nasal or throat swabs.

Comparision with other studies :

(1) Ghebremendhin et al Actim Inf A&B Sensitivity was 65.2% & Specificity was 100%

(2) E.R. Barriera et al Quick vue Inf A+B Sensitivity was 40.4% & specificity 96.2%

(3) S.M.AlJohani et al

BD Directigen EZ Sensitivity was 20.6% & Specificity 99%

Tru Flu Sensitivity-9.7% & Specificity-98.2%

(4) Z.R. Zetti et al

Binax Now Sensitivity-4.4%, Specificity-100%

Quick Vue Sensitivity-4.4%, Specificity-100%

Rockeby Sensitivity-12.5%, Specificity-90.9%

BD Directigen EZ Sensitivity-37%, Specificity-98.1%

Results of Rapid test of Current study resembles results of other Rapid tests as mentioned below.

(1) Binax Now, Quick vue ,Rocke by conducted by Z.R.Zetti etal

(2) BD DirectigenEZ,Truflu conducted by SMAl Johani *et al.*

Conclusions :

(1) Sensitivity of Rapid Test(Immunochromatography/ OSOM Inf.A&B) for Influenza-A is very low when compared with Real time Reverse Transcriptase Polymerase Chain Reaction.

(2) Rapid Test does not appear to be useful as a screening test in this small study.If we look at the expenditure incurred on both tests, Rapid test appears to be less costly but as sensitivity is very low, lot of positive cases (in this study 14 out of 16 cases) are missed.

(3) If Cost of Real Time Reverse Transcriptase Polymerase Chain Reaction is lowered and is made available at the point of care in the form of rapid test,then Real Time Reverse Transcriptase Polymerase chain Reaction will be more useful.

4.As per WHO guidelines for management of H1N1 Influenza-A infection, patients can be started on antiviral therapy awaiting test results.

Limitations of Study :

(1) Sample size of this study was small with only 50 Influenza suspects.

(2) Equal number of Healthy controls were not included which will provide better information.

(3) The cause of Infection was not known in 32 out of 34 suspects in whom Real Time Reverse Transcriptase Polymerase Chain Reaction for Influenza-A was negative.

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Observational Study

Prevalence of nosocomial infections in intensive care units and operation theatres in Agartala Government Medical College and Hospital

Shibabrata Bhattacharya[1], Raunak Bir[2], Tapan Majumdar[1]

Nosocomial infection is an important cause of prolonged hospital stay. In India 10-30% of patients admitted in hospitals acquire nosocomial infection. The main objective of the study was to find prevalence of nosocomial infection, causative pathogens and their antibiogram. This study was done in the department of Microbiology, Agartala Government Medical College and Hospital from May-July, 2011. 210 samples were included in the study which after collection from Neonatal Intensive Care Unit, Pediatric Intensive Care Unit, Intensive Care Unit, Orthopaedics Operation Theatre, General Surgery Operation Theatres, Postoperative care unit and orthopaedics wards were sent to microbiology laboratory for bacteriological examination and antibiogram. Though the rate of nosocomial infection is 44% but highest prevalence ie, 70% is found in orthopaedics wards. Klebsiella pneumoniae (21.8%) and Enterococcus faecalis (8.7%) showed highest frequency among gram-negative bacilli and gram-positive cocci respectively. Organisms isolated from patient samples were highly resistant to ß-lactam antibiotics (100%), macrolides (80%), fluoloquinolones (70%), aminoglycosides (60%) and vancomycin (40%). Prevalence of nosocomial infection is high in the study. There is a continuous need of surveillance and formulation of an antibiotic policy for the hospital.

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Key words **: Antibiogram, ß lactam antibiotics, Nosocomial infection.**

Nosocomial (nosos- illness and komein- treat) infection, - also called "hospital acquired infection", are the infections occurring within 48 hours of hospital admission, 3 days of discharge or 30 days of an operation which were neither present nor incubating at the time of admission[1].

Nosocomial infection (NI) concerns 2 million cases annually worldwide ie, 5-15% of hospitalized patients. Among them, 10 per cent of patients acquire poly-microbial infections. In India 10-30 per cent of patients admitted to hospitals and nursing homes acquire NIs[2].

Major NI includes urinary tract infection (UTI), blood stream infection (BSI), ventilator –associated pneumonia (VAP) and surgical site infection (SSI)[3].

Delving further into various studies about NI it becomes evident that most frequently isolated micro-organism is bacteria (93-97%) whereas rest comprise fungi. Among bacteria, Enterobacteriacae, Pseudomonas spp, Aceinetobacter spp, Staphylococcus aureus and Enterococcus spp are the pathogenic organisms. In the group of fungi Candida spp. is the most common agent causing NI[4,5].

This study was carried out in AGMC Hospital to analyse the prevalence of NI with an objective of estimating the risk-factors, the micro-organisms responsible and their resistance pattern which in turn may guide us to devise ways to combat NI and development of antibiotic resistance in order to formulate uniform antibiotic policy.

Department of Microbiology, Agartala Government Medical College, Tripura 799006
[1]MD (Microbiology), Assistant professor and Corresponding author
[2]MBBS, Student

Materials and Method

This was a hospital based cross sectional study conducted in Neonatal Intensive Care Unit (NICU), Paediatric Intensive Care Unit (PICU), Intensive Care Unit (ICU), Orthopaedics Operation Theatre, General Surgery Operation Theatres, Postoperative care unit (PCU) and orthopaedics wards (ORTHO) of AGMC Hospital over a period of two calendar months (May-July, 2011) as a part of STS project of ICMR and has been cleared by the institutional ethical committee.

Sample size : A total of 210 samples were collected which include,

- ***Environmental samples*** — A total of 110 swab samples were collected from the study area which include samples from wall, floor, bed linen, AC vent, oxygen mask, dust bin, basin, tray, operation theatre (OT) clothes, antiseptics and disinfectants, instruments.
- ***Patient samples*** — 50 samples were collected which include patient's secretions and excretions according to the system involved admitted in study area.

- ***Samples from health service provider*** — 50 samples consisting of hand impressions from on-duty doctors, nurses, dressers and other health service providers of the study areas were collected.

Inclusion criteria :

- Patients admitted in NICU, PICU or ICU (ICUs), staying there for more than 48 hours and developing signs of infections after 48 hours of admission which were not present at the time of admission.
- Patients undergone operation, admitted in PCU or ORTHO falling in the category of surgical-site infections according to the Center for Disease Control and Prevention (CDC) definition[6].
- Doctors, nurses, dressers and other health service providers working in the study sites.
- Samples yielding pure isolates.

Exclusion criteria :

- Patients admitted in ICUs, but are removed or discharged before completion of 48 hours.
- Patients were admitted in ICUs, with some community-acquired infectious disease.

Study method :

The swab samples and urine samples were collected in sterile container under strict aseptic care. Blood samples under aseptic conditions were immediately injected in blood culture bottle containing Brain-Heart infusion broth. All the samples were transported immediately to the laboratory. The swab samples and urine samples were inoculated in Blood agar (BA) and MacConkey agar (McA) plates and incubated at 37°C for 24 hours. Blood culture bottles were incubated at 37°C and serial subcultures were made on 3rd, 5th and 7th day in BA and McA plates. Hand impression smears were collected directly on BA and McA plates. Colony morphology and characteristics were observed after 24 hours in BA and McA plates. If growth was not observed after 7 days in blood culture then the sample was labelled as negative. In case of antiseptic solutions and disinfectants In-use test was done[7]. Identification up to species level was done by gram staining and biochemical tests[7]. Antibiotic susceptibility test was performed in Mueller-Hinton agar by Kirby-Bauer disc diffusion method following Clinical and Laboratory Standards Institute (CLSI) guidelines[7,8].

Data analysis :

Data was analysed using SPSS software.

Observations

The rate of NI in the study was found to be 44% (22/50).On further analysis, NI is found to be more prevalent in ORTHO ie, 70% followed by PCU, NICU and PICU with 40% each and lastly ICU, having NI rate of 30%. Among 22 NI patients, 41% were suffering from SSI. Rate of BSI and UTI was 32% and 18% respectively. Lastly rate of VAP was 9%.

Among 22 NI cases 21(95.5%) had single and 1(4.5%) had double infection. More than 80% of the NI was caused by gram-negative bacilli, predominantly Klebsiella pneumoniae (21.8%), Pseudomonas aeruginosa (17.5%), Escherichia coli (13%), Proteus mirabilis, Citrobacter freundii and Acenitobacter baumannii (8.7%) each and Enterobacter aerogenes (4.3%). Rest of Nis were caused by gram-positive cocci, which included Enterococcus faecalis (8.7%), Staphylococcus aureus (4.3%), Coagulase negative Staphylococcus (4.3%).

Klebsiella pneumoniae is predominantly isolated from NICU followed by PICU. Pseudomonas aeruginosa was mostly found from PCU and ORTHO. A single isolate of Escherichia coli was found in PCU, ORTHO and ICU each. Citrobacter freundii and Acenitobacter baumannii were isolated from ORTHO whereas single isolate of Proteus mirabilis was found in PCU and ORTHO. Among gram-positive cocci, the most commonly encountered organism was Enterococcus faecalis in ICU and PICU. Single isolate of Staphylococcus aureus, Coagulase negative Staphylococcus were isolated from ICU and PICU respectively.

Organisms isolated from patient samples are highly resistant to ß-lactam group of antibiotics including cephalosporins (100%) and extended spectrum penicillins (100%). Among aminoglycosides and fluoroquinolones, amikacin and ofloxacin showed good sensitivity rate respectively. Klebsiella pneumoniae were mostly sensitive to ofloxacin (80%) followed by amikacin (60%). Pseudomonas aeruginosa were sensitive to amikacin (50%) whereas Escherichia coli were mostly sensitive to amikacin (66.7%). Among gram-positive cocci, penicillin and erythromycin resistance was 100% except in case of Enterococcus faecalis which showed 50% resistance toward erythromycin. Vancomycin resistance was very high, 50% in Enterococcus faecalis and 100% in Staphylococcus aureus.

Out of 110 environmental sample, 2 cases of Escherichia coli and 2 cases of Pseudomonas aeruginosa were isolated from ICU and ORTHO respectively. Single isolate of Klebsiella pneumoniae and Coagulase negative Staphylococcus were found in NICU and PICU respectively. No growth could be isolated from the samples collected from orthopaedic and general surgery OTs.

Antibiotic sensitivity for environmental isolates was in the line of patient isolates with high resistance to ß-lactam antibiotics and high sensitivity for amikacin and ofloxacin in gram negative bacilli. Gram-positive coccus was sensitive to vancomycin whereas resistant to penicillin and erythromycin.

Out of 50 hand impression smear samples collected, 46 showed growth of different organism. Among these, Staphylococcus aureus, Pseudomonas aeruginosa, Escherichia coli, Klebsiella pneumoniae, Acenitobacter baumannii, Enterococcus faecalis, Bacillus spp, Corynebacterium spp,

Micrococcus spp, Coagulase negative Staphylococcus and Candida spp. were isolated (Table 1).

Discussion

Results of the study show the rate of NI in our setup is 44% in the study sites. Though similar results were also obtained by Faruquzzaman *et al* 2011[9]. In India 10-30% patient acquire NI[2].

Study area included ICUs, PCU and ORTHO, out of which ORTHO showed highest infection rate of 70% whereas rate of NI in PCU, NICU, and PICU was 40% each.

Analysis of spectrum of bacterial pathogens responsible for NI showed predominant organism in NICU and PICU to be Klebsiella pneumoniae. Similar results were also found by Deep A *et al* 2004, Lakshmi KS *et al* 2004 and Kamath S *et al* 2010[10,11,5]. In case of ICU predominant organisms were Escherichia coli and Staphylococcus aureus. Results similar to the present study were reported by Richard MJ *et al* 2000[3]. Pseudomonas aeruginosa, Citrobacter freundii and Acenitobacter baumannii were the most frequently occurring isolates in ORTHO and PCU which were shown in the studies done by Faruquzzaman et al 2011 and Kamat US et al 2008[9,4].

Table 1 — *Distribution of isolates in study sites*

Organism isolated	Type of sample	Source of patient sample				
		ICU	ORTHO	PCU	NICU	PICU
Pseudomonas aeruginosa	P	0	2	2	0	0
	E	0	2	0	0	0
Escherichia coli	P	1	1	1	0	0
	E	2	0	0	0	0
Proteus mirabilis	P	0	1	1	0	0
	E	0	0	0	0	0
Citrobacter freundii	P	0	2	0	0	0
	E	0	0	0	0	0
Enterococcus faecalis	P	1	0	0	0	1
	E	0	0	0	0	0
Acenitobacter baumannii	P	0	2	0	0	0
	E	0	0	0	0	0
Klebsiella pneumoniae	P	0	0	0	3	2
	E	0	0	0	1	0
Enterobacter aerogenes	P	0	0	0	1	0
	E	0	0	0	0	0
Coagulase negative Staphylococcus	P	0	0	0	0	1
	E	0	0	0	0	1
Staphylococcus aureus	P	1	0	0	0	0
	E	0	0	0	0	0
Total	P	3	8	4	4	4
	E	2	2	0	1	1

P = Patient sample, E = Environmental sample.

In order to study the level of bacterial contamination in hospital, environmental samples were also analyzed. A number of bacterial agents were isolated from these samples comprising of Pseudomonas aeruginosa, Escherichia coli, Klebsiella pneumoniae and Coagulase negative Staphylococcus. Absence of any growth in the samples collected from the OTs implies that proper measures for sterilization were being strictly adhered.

The result of hand impression smear implies about poor compliance of hygienic hand wash practice among health care providers in these units.

Antibiogram of all the isolates showed a 100% resistance to ß lactam antibiotics, 80% to macrolides, 70% to fluoloquinolones, 60% to aminoglycosides and 40% to vancomycin; which is a matter of great concern.

To summarize, this short term study shows high rates of NI in the study sites of our hospital setup. Most of the isolates are resistant to multiple antibiotics especially to ß lactam antibiotics. This study implies for strengthening of hospital acquired infection control policy, regular surveillance and immediate formulation of an antibiotic policy for the hospital.

Acknowledgement

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Observational Study

Self plagiarism — and its utility to the reader

S Kumaravel[1]

Self-plagiarism is using ones own sentences again without proper citation. This practice is every now and then defended as harmless. This paper analyses a few recent scientific works that were published in orthopaedic and surgical journals which attract the clause of self-plagiarism. The apparently undamaging practice boosts the Curriculum Vitae of the author and actually causes harm in (i) wasting the time of the reader (ii)creating duplicate data in meta-analysis and (iii) consuming the space of original articles in the journals. With more journals going online and with gadgets available to identify repetition pattern such practices will surely decrease in future. Strict anti-plagiarism rules for journals and some soul-searching from the writers' side are the urgent need of the hour.

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***Key words* : Self-plagiarism, wasting time, reader, Citation, Journal, Meta-analysis.**

The need to publish research articles is mounting. The worker has an urge to get benefits like salary hikes, remuneration and also promotion. This sometimes makes him to include names of others which are not part of the work. He also tries to publish the same case again and again, at least twice to boost up the Curriculum-vitae. Such practice of using one's own words again without proper citation is called self-plagiarism. "Self-plagiarism is the practice of an author using portions of their previous writings on the same topic in another of his publications, without specifically citing it formally in quotes"[1]. This practice is also occasionally defended as normal as it does not cause any harm to anyone. This paper analyses scientific works from two authors that were published recently in orthopaedic and surgical journals which attracted this above clause of self-plagiarism.

Materials and Methods

This section has details of two pairs of papers that were published in orthopaedic and surgical journals which attract the clause of self-plagiarism. First pair of papers[2,3] were cases seen by same authors. The second pair of papers[4,5] was a case study presented by different authors (maintaining the first author). Within each of the two pairs, there appeared strong similarity as to the region of the ailment, treatment methods etc. These two pairs of articles were analysed if these were double publications with regard to the content, text and figures.

Observations

First case :

The article 'Outcome of ankle arthrodesis in post-traumatic arthritis' in the Indian Journal of Orthopaedics[2] (IJO) by Narayana Gowda *et al* (A1)was similar to the one published as 'Ankle arthrodesis as a salvage procedure: A case of secondary ankle arthritis using Charnley's compression device' by the same authors in Foot and Ankle Online Journal (FAOJ) in February 2012[3]. It presents a study done in the same period by the same authors with even the same photographs. Finer points like sex distribution in study-period of study, centre of study, indication of arthrodesis, the apparatus used, figures, intra operative steps and follow up period are surprisingly the same and can be verified from Table 1. It is observed that certain words are not even rephrased from the original article. This shows the sheer callousness of the authors. Figures 1a and 1b show the lines which were similar in first pair of articles[2,3].

Second case :

The first of the second pair of articles titled Soft Tissue Textiloma- A Diagnostic Pitfall[4] by Elyazid Moushine *et al* (A2) Department of Orthopedic Surgery, and Traumatology, University hospital, Lausanne, Switzerland published in the Canadian Journal of Surgery. This article had similarity with another article 'Leg – Textiloma' published by the same first author in the journal - Medicine Principles and Practice[5]. A detailed analysis of these two articles was done and tabulated in Table 2. The details shown in this table are patient age, sex, biochemical parameters, previous surgeries done with their dates, present clinical examination like the skin condition, size and shape of the swelling, findings of diagnostic imaging like the ultrasound and MRI;, operative findings and histopathology were noted in these two papers[4,5]. Figs 2a and 2b show the lines which were similar in the articles of the second pair of articles[4,5]. It is observed that certain words are used verbatim from the article.

[1]MBBS, D Ortho, MS (Ortho), DNB (Ortho), Researcher, Department of Electronics and Instrumentation Engineering, SASTRA University Tirumalai Samudram, Thanjavur 613401. Professor, Department of Orthopaedic surgery, Nodal Officer Medical Council of India, Government Thanjavur Medical College, Thanjavur 613004 and Corresponding author

S.no	Detail	FAOJ	IJO
1	Journal name	Foot and ankle online Journal	Indian Journal of Orthopedics
2	Published month	February 1,2012	May-June 2012
3	Authors	Narayana B.S. Gowda, J Mohan Kumar	Narayana B.S. Gowda, J Mohan Kumar
4	Males in study	10	10
5	Females in study	5	5
6	Period of study	Jan 2006- Dec 2009	Jan 2006- Dec 2009
8	Centre	Department of orthopedics, People's Education Society (PES) Medical College and Research Center, Kuppam, Andhra Pradesh (AP)	Department of orthopedics, People's Education Society (PES) Medical College and Research Center, Kuppam, Andhra Pradesh (AP)
9	Indication of arthrodesis	6 cases of post traumatic AVN talus (Fig. 1), 4 cases malunited bimalleolar fracture, 3 cases of distal tibial plafond fractures, 2 cases of medial malleoli non-union	posttraumatic arthritis and/or avascular necrosis (AVN) talus (n=6), malunited bimalleolar fracture (n=4), distal tibial plafond fractures (n=3), medial malleoli nonunion (n=2).
10	Apparatus used	Charnley in all the cases	Charnley in all the cases
11	Figures and number in the journal	Fig 1	2a
12	,,	Fig 3	3b
13	,,	Fig 4	1c
14	,,	Fig 5	2c
15	,,	Fig 6	2d
16	Follow up period	2years and 8 months	2years and 8 months
17	Intra operative steps	All the fifteen patients who had secondary ankle arthritis have undergone open ankle fusion with anterolateral approach (Fig. 2) in supine position under tourniquet control and spinal anaesthesia.	All the 15 patients had undergone open ankle fusion by anterolateral approach [Figure 1]b in supine position under tourniquet control and spinal anesthesia.
18	Limb length discrepancies	Limb length discrepancies were insignificant (0.5 to 1.5 cm) except in one patient who had 2.5 cm secondarily due to distal tibial plafond fracture.	Limb length discrepancies were insignificant (0.5-1.5 cm) except in one patient who had 2.5 cm secondarily due to distal tibial plafond fracture.
19	Reference section		No mention of Narayana Gowda B S, Kumar J M. Outcome of ankle arthrodesis in posttraumatic arthritis . Indian J Orthop [serial online] 2012 [cited 2013 Apr 5];46:317-20.

Table 1 — *The Striking similarity between the two articles in FAOJ and IJO*

Discussion

The words and lines re-used in these two pair of articles[2-5] are seen in Figs 1a, 1b and 2a, 2b. In the case of both authors A1 (Figs 1a and 1b) and A2 (Figs 2a and 2b) both have used similar words, not even rephrasing. Both these authors have chosen journals of high impact and Scopus value.Thus it is obvious that much of the text in Fig 1a matches that in Fig 1b and also much of the text in Fig 2a matches the text in Fig 2b.

iThenticate, defines Self-Plagiarism as a "type of plagiarism in which the writer republishes a work in its entirety or reuses portions of a previously written text while authoring a new work[6]." If in a composite laboratory experiment yield different results each one can be published individually maintaining the same methodology part for all these articles, if a prior work can be written in the literature review as a basis for the next work - ie, if the core of the theory can be exactly described in one sentence of the previous paper, if a component of the prior article must be repeated to deal with new evidence or arguments or tell differently a second time or if the audience of the different set up for eg, surgeons on one hand and biomed engineers on the other. But only way out is to openly mention the article where the author used it first in the reference section of the second article[7,8].

In all these above two pairs of papers, Narayana Gowda *et al* (A1 -first authors of the first pair of articles[2,3]) and Moushine *et al* (A2-first authors of the second pair[4,5]) did not mention their prior work (ie, in the references section of the second paper[3,5] there is no mention of the corresponding first papers[2,4]) to claim (i) an extension of their work or (ii) one of more follow up or (ii) they want to reiterate something they have not told in the first report. If they actually want to get their own sentences republished they have to put them between inverted commas and suitable citation given in superscript and in references[8].

Both these articles are case reports but on the same cases. It is therefore vital that both these first authors have not cited the first work in their second work. The study and follow up period are the same and the authors nowhere have quoted their work which was published online in their second paper. It is obvious that the readers will not benefit from such republishing the same work including photographs and demographic details that too from the same authors in the same time period.

To find the validity of the diagnostic or treatment methods meta- analysis is commonly used. Double publications will reduce the validity of such studies[9]. Thus such practices will only increase worthless junk of scientific literature and will not only be of any use to the reader but also waste the time of the reader, confuse meta-analysis of intervention studies giving duplicate data. It is natural to feel that the editors should be ruthless on these authors to retrieve the articles or at least make public those letters which are sent citing the misconduct citing paucity of space in the journal. Presence of a few common characteristics between the same author's own papers are tolerable. The fresh paper should have a fresh outcome. One point of the

Journal	Can J Surg	Med Princ Pract
Article	Moushine E etal .Soft tissue textiloma : a potential pitfall ,Can J Surg 2005 december;48(6)495-6.	Moushine E etal 'Leg – Textiloma , med princ pract 2006, 15 ; 312-315
Patient profile	58 year male	58 year male
Duration of symptoms	1.5 year[3]	[18 months[4]]!!!
history	swelling and tethering of left leg.	swelling and tethering of left leg.
History of previous surgery	He had right side inguinal hernia surgery in 15 years back [3] (paper was in 2004)	He had right side inguinal hernia surgery in 1989[4] 1989+15=2004
Previous surgery	left leg was operated for varicose veins in 8 years after that previous surgery[3]	left leg was operated for varicose veins in 1997[4] i,e 8 years sfter 1989
Other diseases	The patient has gout and high cholesterol.	The patient has gout and high cholesterol.
Gait	He had a normal gait without limp.	He had a normal gait without limp.
Local examination	There was slight edema of the left ankle and distal 1/3rd of the left calf with ochre dermatitis. A 6x4 cm hard indolent mass was palpable in the antero internal aspect of the distal third of the leg. This mass was adherent to subcutaneous tissue and not to deep tissues.	There was slight edema of the left ankle and distal 1/3rd of the left calf with ochre dermatitis. A 6x4 cm hard indolent mass was palpable in the antero internal aspect of the distal third of the leg. This mass was adherent to subcutaneous tissue and not to deep tissues.
Ultrasonography	Ultrasonography revealed the presence of a soft tissue shadow high echogenic mass 2 cm wide and 10 cm thick. This mass was surrounded by multiple blood vessels.	Ultrasonography revealed the presence of a soft tissue shadow high echogenic mass 2 cm wide and 10 cm thick. This mass was surrounded by multiple blood vessels.
MRI	MRI hypodense in T1 and hyperdense in T2 with relation to surrounding fatty tissue. The MRI also showed a central nucleus which may be most likely to be necrosis. With IV contrast of gadolinium, the mass enhanced and showed a strong vascular supply and large draining vessels.	MRI hypodense in T1 and hyperdense in T2 with relation to surrounding fatty tissue. The MRI also showed a central nucleus which may be most likely to be necrosis. With IV contrast of gadolinium, the mass enhanced and showed a strong vascular supply and large draining vessels.
MRI	MRI LS was shown in another. [3]	figures MRI TS was shown in one article
Provisional diagnosis	tumour of mesenchymal origin	tumour of mesenchymal origin
findings at surgery	At surgery, old retained surgical gauze was found	At surgery, old retained surgical gauze was found
Histologic examination	large foreign body giant cells.	large foreign body giant cells.
Reference section	-	no mention of 'Moushine E etal .Soft tissue textiloma : a potential pitfall ,Can J Surg 2005 december;48(6)495-6.

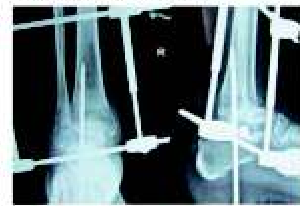
Table 2 — *The Striking similarity between the two articles in Canadian Journal of surgery and medical principle and practice*

previous paper alone may be acceptable. However if the same paper as a whole is printed again, then it is atrocious[6].

As far as the first case in the present paper, even though the materials are the same and they would have not used materials from other centre, they cannot defend writing the same material for two journals[2,3]. For example if they describe the presence of cataract or dental caries or hypertension or cardiomyopathy in these patients, they need not quote the first work in the second work. But here in the second paper, they are again reporting on their same region and same modality of treatment and the same evaluation method. Is it correct to hide the first work[2], in the second work[3] ?

In the case report published in foot and ankle online journal the authors of the first pair of case study Narayana *et al* can try a defense that they have highlighted the Charnley's compression device in the first relation to cost, simplicity and good outcome. They have incorporated a photograph and X-ray of one patient to show the fixator in situ and union of arthrodesis. However they have also repeated the same photos again in the second publication as it is obvious from the table and Figs 1 and 2. They (Narayana *et al*) cannot claim that they can write an article to the Indian Journal of Orthopaedics[3] (their second paper) emphasizing the ankle arthrodesis procedure in post-traumatic arthritis and clinical and radiographic evaluation for which functional evaluation with American Orthopaedic Foot and Ankle Society (AOFAS) Ankle Hindfoot scale was done to indicate to find if ankle fusion will help to relieve pain and to improve overall function .

If they think the second paper[3] (in the Indian Journal of Orthopaedics)the procedure of using compression device for ankle arthrodesis was described only as a procedure, in the first paper[2] (Foot and Ankle Online Journal) they have not at all used any other device other than Charnely compression clamp with a calcaneo tibial pin to justify the re –use of the published material. In both these



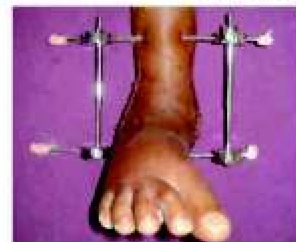
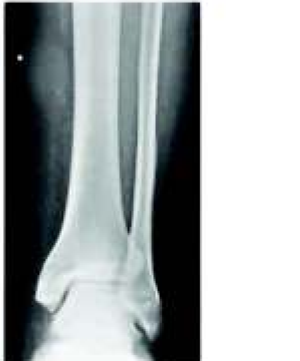
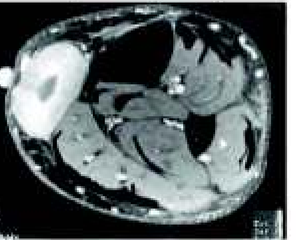


Fig 1a **Fig 1b**

Figs 1a and 1b — Showing few sample of lines which were similar in the first pair of articles in Foot and ankle online Journal and Indian Journal of Orthopedics respectively. The same figures are seen in both Articles





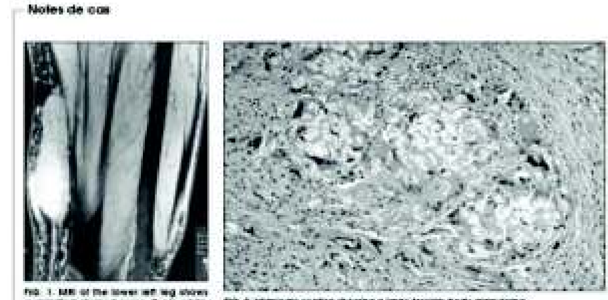


Fig 2a **Fig 2b**

Figs 2a and 2b — Showing few sample of lines which were found similar in the second pair of articles in Canadian Journal of Surgery and Medicine Principle and Practice respectively

(Continued on page 32)

Case Report

Gastrointestinal malrotation and Ladd's bands in adults — a case series

Jayesh Kumar Jha[1], M Ashraf[2], Tarun Jindal[3], Mir Reza Kamal[3], Naveen Kumar Gupta[4], Tamal Kanti Sen Gupta[5], Nemai Chandra Nath[6]

Gastrointestinal malrotation commonly present early in life. A minority of the patients remain asymptomatic in childhood and may present in late in life. In this article we describe cases of adult intestinal malrotation seen in the authors' practice. A retrospective analysis of all the patients in the authors' practice was done over a period of 10 years (2001-2011) to identify cases of adult intestinal malrotation. A total of eight cases were identified. The mean age of the patients was 33.2 years. Recurrent vomiting and weight loss were the predominant symptoms. Barium meal follow through clinched the diagnosis in three cases by revealing duodenal obstruction along with left sided cecum. Ladd's procedure was done in five patients while one patient had bowel infraction and no definitive surgery could be performed. Majority of the patients had good recovery with complete resolution of their symptoms. Gastrointestinal malrotation can present in adults, albeit rarely. The medical practitioners should be aware of the condition in order to diagnose and treat the condition in an appropriate and timely manner.

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***Key words* : Ladd's bands, Gut rotation, Intestinal malrotation.**

Malrotation is a congenital abnormal position of the bowel within the peritoneal cavity. It usually involves both the small and the large bowel. Malrotation is accompanied by abnormal bowel fixation by mesenteric bands or absence of fixation of portions of the bowel, leading to increased risks of bowel obstruction, acute or chronic volvulus, and bowel necrosis. Malrotation is usually diagnosed in newborns and young infants; up to 90% of symptomatic cases occur within the 1st year of life[1-3]. A minority of patients may escape diagnosis in the early life and may be detected in their adulthood. In adults, malrotation may have myriad symptoms. It can be a bewildering situation for surgeons not familiar with the condition. We, in this article describe cases of adult malrotation associated with Ladd's bands and discuss the management.

Material and Methods

A retrospective analysis of all the patients in the authors' practice was done over a period of ten years (2001-2011). All the relevant details regarding the patient profile, presenting symptoms, clinical features, imaging features, surgical findings and the outcomes were recorded.

Department of Surgical Oncology, Medical College & Hospital, Kolkata 700073

[1]MBBS, MS, DNB (Surgical Oncology), Assistant Professor, and Corresponding author

[2]MBBS, MS, DNB (Surgical Oncology), Senior Resident, Department of Surgical Oncology, CNCI, Kolkata 700026

[3]MBBS, MS, Post Doctoral Trainee, Department of Urology, Calcutta National Medical College & Hospital, Kolkata 700014

[4]MBBS, Postgraduate Trainee, Department of General Surgery, NRS Medical College & Hospital, Kolkata 700014

[5]MBBS, MS, Assistant Professor, Department of General Surgery, NRS Medical College & Hospital, Kolkata 700014

[6]MBBS, MS, Professor, Department of General Surgery, NRS Medical College & Hospital, Kolkata 700014

Results

A total of eight cases of intestinal malrotation were found. Four of the eight cases were operated under elective setting (Case 1,2,3,4) while four were operated under emergency set up (Case 5,6,7,8). The age of the patients ranged from 14 to 55 years with the mean age of 33.2 years. Recurrent vomiting and weight loss were the predominant symptoms. Four patients had history of previous abdominal surgery. The patient profile, clinical presentations and surgical history have been described in Table 1.

X-ray and ultrasound examination of the abdomen were the initial investigations offered in these patients. Contrast enhanced CT scan of the abdomen was done in one case that had a gall bladder mass (Case 4) which revealed infiltration of liver. It also demonstrated a left sided cecum. Upper gastrointestinal endoscopy done in three cases revealed dilatation of the stomach. Barium meal follow through clinched the diagnosis in the elective cases by revealing duodenal obstruction along with left sided cecum (Figs 1a & 1b). The imaging findings are summarised in Table 2.

Six of the eight patients underwent Ladd's procedure was performed (Figs 2a & 2b). Two patients could not have any definitive procedure due to the established ischemic gangrene of small bowel. The intra-operative findings, surgery performed and the outcome of the patients has been described in Table 3. Four patients made excellent recovery after the Ladd's procedure and are doing well on follow up. The mortality was higher in patients with acute presentation as compared to the elective cases.

Discussion

Anomalies of rotation are the commonest embryologic malformations of the gastrointestinal tract. It has been reported that as

Table 1 — *The demographic details, clinical presentations, operative findings and surgical history of cases with intestinal malrotation*

Age/Sex	Clinical presentation	Previous surgery
14/Male	Recurrent vomiting & weight loss	None
37/Female	Recurrent vomiting & weight loss	None
38/Female	Recurrent vomiting & weight loss	Appendectomy
54/Male	Recurrent vomiting & weight loss, pain abdomen	None
55/Male	Acute intestinal obstruction	Extended cholecystectomy 2 weeks before presentation
30/Male	Acute intestinal obstruction	Right hemicolectomy 1 year back for cecal volvulus
17/Male	Jaundice and sub-acute intestinal obstruction	Appendectomy 3 weeks before presentation
21/Male	Acute intestinal obstruction	None

many as 90% of the cases present within the first year of life[4-6]. The condition is rare in adults. The actual incidence malrotation is difficult to assess as people may not be detected to be having intestinal malrotations unless they present with symptoms or are incidentally diagnosed on unrelated investigations. The autopsy data indicate that the incidence of malrotation may be up to 1%[7-10].

During the normal embryogenesis, the small intestinal loops protrude in the umbilical coelome and form the umbilical loop. This loop undergoes an anticlockwise rotation around the superior mesenteric artery. Any anomaly which hinders this process can result in rotation abnormalities. The most common cause of these rotational abnormalities is the presence of fibrous bands which were described in the classic article by William Ladd in the year 1936 and bear his name[11,12].

The clinical presentation can be varied in the adult patients. They often presents with signs of intestinal obstruction. Pain abdo-

Table 2 — *Findings on X-ray, ultrasound and barium meal follow through*

X-ray abdomen	Ultrasonographic findings	Barium meal follow through
Not performed	Normal	Duodenal obstruction and left sided cecum
Not performed	Normal	Duodenal obstruction and left sided cecum
Not performed	Normal	Duodenal obstruction and left sided cecum
Not performed	Gall bladder mass	Not performed
Distended small bowel	Not performed	Not performed
Distended small bowel	Not performed	Not performed
Distended small bowel	Not performed	Not performed
Distended small bowel	Dilated bowel loops	Not performed

men with forceful vomiting is the most commonly encountered presentations. The vomiting may be bilious or non bilious depending upon the level of obstruction. Patients who have midgut volvulus may present with acute onset of bilious vomiting and severe pain abdomen. The patients may have chronic history of abdominal pain and often are on antispasmodic medications. Less common chronic symptoms included diarrhoea, bloating, constipation, bleeding etc[4,6,13]. In our series, the patients who were symptomatic since long durations, presented with vomiting and weight loss.

Imaging modalities most commonly offered are X-rays, contrast studies, CT scan, duplex ultrasonography etc. Plain X-ray of the abdomen my reveal signs of intestinal obstruction in the form of distended bowel loops or else in case of duodenal obstruction, a classic "double bubble" sign may be seen. Contrast studies like barium enema to confirm the position of cecum or barium meal follow through studies are extremely useful[6,9,14]. Coiling and inversion of the superior mesenteric vein over the superior mesenteric artery may be seen of duplex ultrasound[15,16]. CT scan with oral and intravenous contrast can help in establishing the diagnosis as well as assessing the bowel viability[17,18]. It is not uncommon that some patients may not be diagnosed even with these studies and surgical exploration is the ultimate answer.

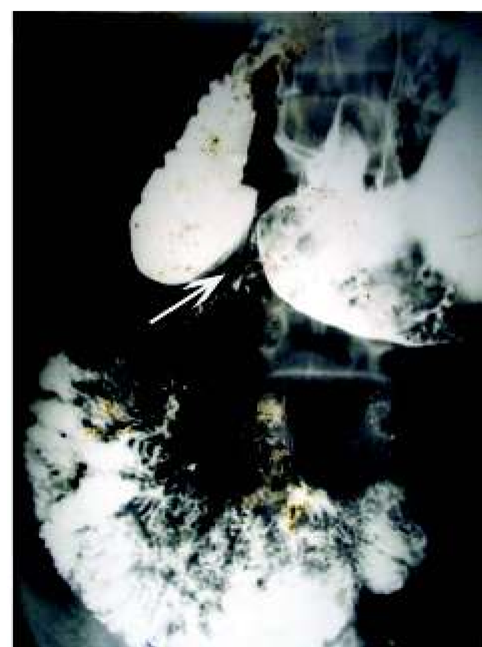

Fig 1a — Obstruction of Duodenum due to Ladd's Band (arrow)

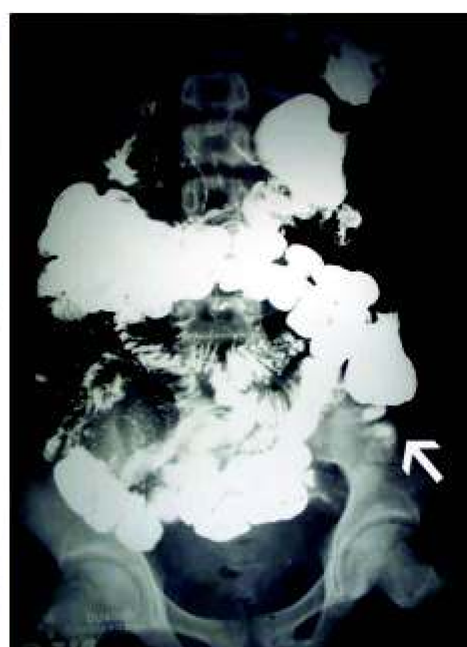

Fig 1b — Left sided ileo-caecal junction with appendix (arrow)

Malrotation may go undiagnosed even in patients who have had a previous abdominal surgery for an unrelated disease especially if the operating surgeon is not familiar with this condition. This happened in three of our cases who had previous abdominal surgery (Case 4,5,6 respectively). This highlights the importance of educating all the surgeons regarding intestinal malrotations in order to help them identify and correct it surgically.

The management of gastrointestinal malrotation depends

Fig 2a — Narrow mesentery of the small bowel demonstrated with forceps

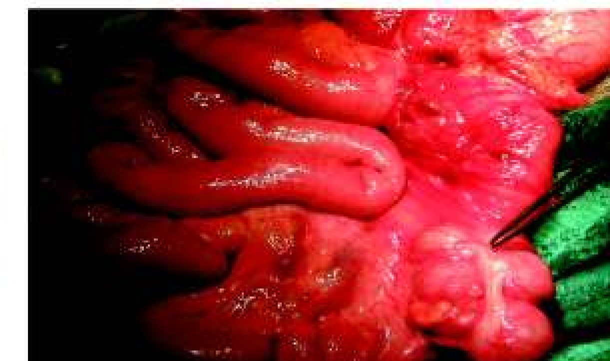

Fig 2b — Final position of the caecum on the left after Ladd's procedure (forceps)

Table 3 — *Per-operative findings, surgical procedure performed and outcome of the patients with gastrointestinal malrotation*

Per-operative finding	Surgery performed	Outcome
Malroation of the gut and Ladd's band	Ladd's procedure	Excellent
Malroation of the gut and Ladd's band	Ladd's procedure	Excellent
Malroation of the gut and Ladd's band	Ladd's procedure	Excellent
Inoperable Carcinoma gall bladder with malroation of the gut and Ladd's band	Ladd's procedure	Patient discharged and received palliative treatment for carcinoma of gall bladder
Midgut volvulus and bowel ischemia	Ladd's procedure	Patient expired on fifth post operative day
Ileo-sigmoid anastomosis with internal herniation	Ladd's procedure	Excellent
Midgut volvulus with bowel infraction	None	Patient expired on third post operative day
Small bowel gangrene	None	Patient expired on sixth post operative day

upon the clinical presentation. The Ladd's procedure remains the cornerstone of surgical treatment for malrotation in patients with symptomatic malrotations. This procedure comprises of reduction of volvulus (if present), division of mesenteric bands, widening of the mesenteric base, placement of small bowel on the right and large bowel on the left of the abdomen, and appendectomy. This procedure has been consistently shown to relieve symptoms and reduce the risk of future volvulus and bowel ischemia. In our study Ladd's procedure was done in five of the six patients of which four made good recovery and are asymptomatic on follow up. Considering the efficacy of Ladd's procedure and the inability to predict which patient will eventually have a volvulus, it is now recommended that even asymptomatic patients with malrotations should be operated[6,9,19].

To summarize, eight adult cases of intestinal malrotation have been described in this study. The clinical presentation is vague, ranging from diffuse pain abdomen, nausea, vomiting, to features of acute intestinal obstruction. History of previous abdominal surgery does not rule out the presence of malrotations. X-ray abdomen, ultrasound, barium meal follow through and CT scan can be useful in establishing the diagnosis. The condition is associated with high mortality especially in case of acute presentation due to mid gut volvulus and subsequent ischemia of the bowel. Ladd's procedure, in the absence of established volvulus/bowel ischemia offers cure.

Conclusion

Our series shows that adult intestinal malrotations presents as a perplexing problem to the surgeon. As the presentation is non specific, diagnosis is often delayed and a high index of suspicion is needed. Malrotation with its propensity for volvulus is truly a time bomb lying within. Thus, it is important that intestinal malrotation should be considered and identified as a possible aetiology for patients with chronic, vague abdominal complaints. The medical practitioners should be aware of the condition in order to diagnose and treat the condition in an appropriate and timely manner. A careful clinical approach will identify patients not responding to treatment in the usual way. All the pertinent diagnostic tests, especially barium studies, should be carried out in these patients. Due to the high morbidity and mortality, prompt intervention is mandatory. Surgical correction by Ladd's procedure should be offered at the earliest in order to alleviate the symptoms and to avoid the risk of catastrophic complications like volvulus and bowel ischemia.

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(Continued from page 28)

papers (FAOJ and IJO)they have used only the ankle arthrodesis by Charnley's clamp and calcaneo-tibial pin and used AOFAS criteria in assessment of post operative status. But why they have not highlighted that they have already published an article on the same region on the same patients and on same period and in the same (their)centre. i.e. where is the citation of the work published in the first journal? As far as the copy right form of Indian Journal of Orthopedics, it is clearly printed, "Neither this manuscript or one with substantially similar content under our author ship has been published nor is being considered for publication except as described in the covering letter. We certify that all the data collected in the study is presented in this manuscript and no data from the study has been or will be published separately"[10] Res ipsa loquitre. Obviously this is an attempt to hide facts.

It is surprising that common data and same figures are being used in such journals of high repute. This has been overlooked by the reviewers and editors alike. Obviously the scientific content of the work masqueraded the wanton copying in the second article. A section of people may feel that this repetition of words is harmless . But it is not so . It wastes the time of the reader. For eg when you search for articles textilomas you will waste time in reading same work of Moushine E *et al* over and over again for nothing. This obviously is an utter waste of time. This practice should be penalised whether there is open access or not. As (in a civil rights case involving the alleged stealing of three soda cans) Judge Posner says 'The law does not excuse crimes . . . merely because the harm inflicted is small"[11].

Conclusion

Summing up the seemingly harmless practice which enhances the Curriculum Vitae of the author actually causes harm in wasting the time of the reader causing mis-interpretation of meta-analysis of diagnostic or interventional studies. With more journals going online and with gadgets available to identify pattern repetition such practice will decrease in future. But what is needed is some soul searching from the writers' side.

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Case Report

Gastrointestinal stromal tumors — a clinicopathological study

Sajith K Satheesh[1], Sangeetha K Nayanar[2], Basavaraj Ankalkoti[3]

Gastrointestinal stromal tumors (GISTs) are the most common primary mesenchymal tumors of the GIT. These develop within the wall of the GIT and occur throughout the GIT from oesophagus to rectum. The KIT mutation results in activation of the tyrosine kinase receptors allowing its detection by immunohistochemistry and helps in confirming the histologic diagnosis of GIST. GISTs are categorized into distinct risk categories and prognostic groups based on tumor size, number of mitoses per 50 high power fields and the anatomic location of the tumor. The present study is of a retrospective, case series nature. Data was retrieved from Pathology archives and Department of Cancer Registry, Malabar Cancer Centre. There were a total of 11 cases in the present study. In our study, almost 20% GISTs occurred below the age of 50 years. Jejunum and ileum were the commonest sites. Majority of tumors were located in submucosal or intramural locations. All were of spindle cell morphology and CD117 was the most useful antibody, being strong diffuse positive in 70%.

[*J Indian Med Assoc* 2019; **117:** 33-5]

Key words **: GIST, CD-117, jejunum. ileum.**

Gastrointestinal stromal tumors (GISTs) are a heterogeneous group of tumours. These are the most common primary mesenchymal tumors of the gastrointestinal tract. These tumours develop within the wall of the gastrointestinal tract. GISTs are known to occur throughout the GIT from oesophagus to rectum[1,2]. The most common site for a GIST is stomach, which is followed by the small intestine (excluding duodenum)[3,4]. About 85-90% of the GISTs harbor a mutation of KIT (CD117). cKIT is a tyrosine kinase receptor which is normally expressed by the Interstitial cells of Cajal located in the wall of the gut. These cells coordinate the autonomic nervous system of the gut and the smooth muscle cells to regulate motility and peristalsis. The remaining 5 to 15% GISTs contain PDGFRA mutations[5,6].

The KIT mutation results in the activation of the Tyrosine kinase receptors. This can be detected by IHC and helps in confirming the histologic diagnosis of GIST[4,5,7,8]. GIST is mostly seen in the elderly, and the median age ranges between 58 and 66 years[4,5,7,9,10]. No definite gender predilection has been reported. Histologically, most of the GISTs show a spindle cell appearance (75 to 80%).Epithelioid cell or mixed morphology is seen in a minority of cases[7,11,4]. Small intestinal GISTs are twice as likely to behave as clinically malignant tumors compared to gastric GISTs. Most GISTs of the colorectumare very aggressive and advanced tumors with a poor prognosis[12,13].

GISTs can also occur outside the gastrointestinal tract, in the omentum, mesentery and retroperitoneum. Then these lesions need to be distinguished from other mesenchymaltumors seen in these sites, especially from benign and malignant smooth muscle tumors.

[1]MD (Pathol), Fellow in Oncopathology, Division of Oncopathology, Malabar Cancer Centre, Kannur 670103

[2]MD (Pathol), DNB (Pathol), Professor, Department of Oncopathology, Malabar Cancer Centre, Kannur 670103 and Corresponding author

[3]MS (Surg), DNB (Surgical Oncology), Assistant Professor, Department of Surgical Oncology, Malabar Cancer Centre, Kannur 670103

GISTs are categorized into distinct risk categories and prognostic groups based ontumor size, number of mitoses per 50 high power fields (HPFS) and the anatomic location of the tumor[4,11]. Based on these factors, GISTs belong to a Very low risk, Low risk, Intermediate risk and High risk categories.

Surgical excision is the mainstay of therapy for GISTs. Targeted therapy with Imatinibmesylate show spectacular results especially in patients with unresectable, recurrent and even metastatic tumors.Imatinib binds to KIT and inhibits the intracellular signalling pathways.

Materials and Methods

The present study is of a retrospective, case series nature. The variables taken into consideration are age, sex, anatomic site, tumor size, mitotic count, histomorphology, immunohistochemical expression, risk category and follow-up status. The entire course of this study was carried out in the Department of Oncopathology, Malabar Cancer Centre, Thalassery.

Data was retrieved from Pathology archives and Department of Cancer Registry, Malabar Cancer Centre. Consecutive patients diagnosed from January 2012 to December 2016 were included in the present study. Risk stratification and categorisation into prognostic groups were based on tumor site, size of the tumor and mitotic count per 50 hpf, with a risk of progression classified into low risk, intermediate risk and high risk categories[12]. The data collected was entered in Google Forms and EpiInfo software was used for the analysis of results. Descriptive statistical tools like mean and Standard Deviation were used for continuous variables and frequency and percentages used for categorical variables.

Observations

A total of 11 cases were included in the audit. Majority of cases were diagnosed in the sixth and seventh decades and the mean age was 62 years. Over 70% of the patients were males. The average size of tumors was 6.5 cm and sizes ranged from 2.75 to 9.5 cms. Symptoms varied from vague abdominal pain, abdominal mass, heart burn, bleeding per rectum, hematemesis and anemia. Grossly,

majority of the tumors were submucosal or intramural, nodular bulging masses, many with central ulceration. Some were polypoid and protruded into the lumen. Jejunum and ileum was the commonest site (50%), while almost 30% were located in the stomach. On histological examination, 80% cases showed spindle cell morphology. Cases with epithelioid morphology were not seen. Immunohistochemically, CD117 was the most useful antibody, being strong diffuse positive in 70%. In 10% cases in our series were diagnosed as extra gastrointestinal GISTs (EGISTs). Using the elaborate algorithm, developed by Miettinen and Lasota[11], all the gastric GISTs in our study were assigned low risk (Group 3a). Based on Miettinen and Lasota's proposal 40% small intestinal GISTs in our study were assigned group 2 (low risk), 20% were assigned group 3a (moderate risk) and the remaining 40% were assigned high risk for disease progression in jejunal and ileal GISTs. All patients in our series underwent resection. All the patients who underwent treatment by surgery and Imatinib have not reported any recurrences or metastatic disease

Discussion

The mean age in our series is comparable to that reported in Western and even Asian literature where mean ages of gastric and small intestinal GISTs have varied from 58 to 70 years[7,9,10,13]. GISTs in all locations occur in the elderly, l0% GISTs occur in patients below 40 years of age[11]. In our study, almost 20% GISTs occurred below the age of 50 years. Studies have shown no gender predilection, although some studies demonstrate a mild male predominance ie, 52 to 55% in GISTs in all locations[10,12]. In our study, over 70% of the patients were males. The average size of tumors in our study was 6.5 cm and sizes ranged from 2.75 to 9.5 cms. Various studies have reported sizes ranging from a few millimeters to greater than 20 cms for small intestinal, and a few millimeters to greater than 40 cms for gastric GISTs[11]. In a series of gastric GISTs, the mean size for gastric GISTs was 6 cms[11]. In two separate studies, mean tumour size was 4.6 cms and 7.02 cms respectively[9,10]. Symptoms in our cases were variable; the commonest were vague abdominal pain, abdominal mass, heart burn, bleeding per rectum, hematemesis, anemia etc. Grossly, majority of the tumors were submucosal or intramural, nodular bulging masses, many with central ulceration. Some were polypoid and protruded into the gastric lumen. Similar, gross appearances have been described by other studies[11].

In our series, small intestine (jejunum and ileum) was the commonest site, (50%), while almost 30% were located in the stomach. According to various international studies, 59 to 61% GISTs occur in stomach[3,9,11], about 30% in the jejunum and ileum, and 4 to 5% occur in the duodenum. Colorectal GISTs comprise 4 to 5%[10,11]. Compared to the international data, location in stomach was slightly less common in our series while location in small intestine was slightly higher.

On histological examination, almost 80% cases showed spindle cell morphology while cases with epithelioid morphology were not seen. Various international studies have reported the epithelioid type to comprise between 20-25%, with mixed tumors comprising the remaining 5 to 10% cases[4,5,11].

Immunohistochemically, CD117 was the most useful antibody, being strong diffuse positive in 70%. We have limited experience with DOG1(Discovered on GIST-1) since we acquired this antibody only in 2016. DOG1 IHC done on paraffin blocks retrieved demonstrated diffuse positivity in 100% of the cases in which it was done. We intend to use DOG1 in all future cases as this antibody has proved to be a very sensitive marker for GISTs. Published Western literature shows that CD117 positivity is seen in 95% (gastric) to 98% (small intestinal) GISTs. It has been seen that most spindle cell GISTs shown positivity for CD34[7,11]. A study from China showed CD117 positivity in 94.5%[10].

Around 10% cases in our series were diagnosed as extra gastrointestinal GISTs (EGISTs). While EGISTs definitely represent bona fide and true GISTs, and demonstrate CD117 immunohistochemical expression as well as GIST-specific KIT mutations, their incidence in most series is extremely low, around 1%[11]. The current thinking is that most of the cases of so called EGISTs are actually detachments or metastases from GISTs of primary GIT origin[11]. Accurate surgical details or radiological films are not available in many cases. Therefore, many of the so called EGISTs could actually represent involvement of retroperitoneum, omentum, mesentery etc by gastrointestinal stromal tumors. Studies have looked for parameters that can clearly identify bona fide EGISTs. Matrix metalloproteinases (MMPs), which are molecules that are implicated in metastasis by various malignant tumors, have been investigated for their role in contributing to the ability of EGISTs to metastasize. However, we have not carried out this in the present study.

The evaluation of prognosis is essential in GIST. Every GIST carries a risk and potential for malignant behavior and there is increasing reluctance to label any GIST as benign. However, this risk varies from very low to very high[7,11]. Earlier studies showed that about 50% primary localized GISTs relapsed within the first five years (local recurrence within the peritoneal cavity or liver metastases) while a much greater percentage of GISTs relapsed within ten years, and that if relapse occurred, prognosis was almost invariably poor[15,16]. It is not practically possible to divide GISTs into benign or malignant categories based on morphology alone and the emphasis shifted to determining criteria which could assess the risk of GISTs to behave in a malignant fashion. Several schemes were developed to define criteria which can stratify the risk of malignant behavior and by which GISTs can be assigned to definite risk categories (low, intermediate, high) or groups[11,15,17]. Tumor size and number of mitoses per 50/HPFs emerged as the major criteria. It also became clear that location was extremely important, with non-gastric GISTs harboring a much higher risk for malignant behavior compared to gastric GISTs of comparable size and mitotic activity[9,11]. Other histologic factors including cellularity, coagulative necrosis, mucosal invasion etc have been suggested[9,11]. Currently, the risk stratification is based on the consensus proposal[17] and the risk prediction algorithm[11]. In a recent study from Turkey which looked at 249 cases, 47% cases belonged to the high risk category[18]. Other recent studies from Asia have also risk stratified GISTs based on the above criteria.

Using the elaborate algorithm, developed by Miettinen and Lasota[11], all the gastric GISTs in our study were assigned low risk (Group 3a). Based on Miettinen and Lasota's proposal[11], 40% small intestinal GISTs in our study were assigned group 2 (low risk), 20% were assigned group 3a (moderate risk) and the remaining 40% were assigned high risk for disease progression in jejunal and ileal GISTs.

The primary treatment of GISTs is surgical excision with adequate negative tumor margins. All patients in our series underwent resection. All the patients who underwent treatment by surgery and Imatinib have not reported any recurrences or metastatic disease. Although surgical excision is the mainstay of therapy for GISTs, targeted therapy with Imatinib mesylate (Gleevec) which binds to KIT and inhibits intracellular signaling, has shown spectacular results especially in patients with unresectable, recurrent and even metastatic tumors. Adjuvant treatment is recommended if the chances of recurrence are greater ie, large tumor size, location other than gastric, high mitotic rate etc. Treatment is recommended

for at least a year after surgery, while for tumors which are highly likely to recur, treatment is recommended for up to three years after surgery. Newer drugs, such as Sunitinib are also coming up and may be effective in patients who become resistant to Gleevec. The role of surgery in patients with recurrent or metastatic GISTs who were responding to Imatinib is currently a subject for additional research.

To summarize, our series of 11 cases show that the demographic features and clinical presentation are similar to that of other similar studies. The prevalence of Jejunal and Ileal GISTs are more common in the present series, in contrast to a Gastric location being the most common site in several other studies. The histomorphology, Immunohistochemical features and responses to treatment were similar to what has been described by various similar series.

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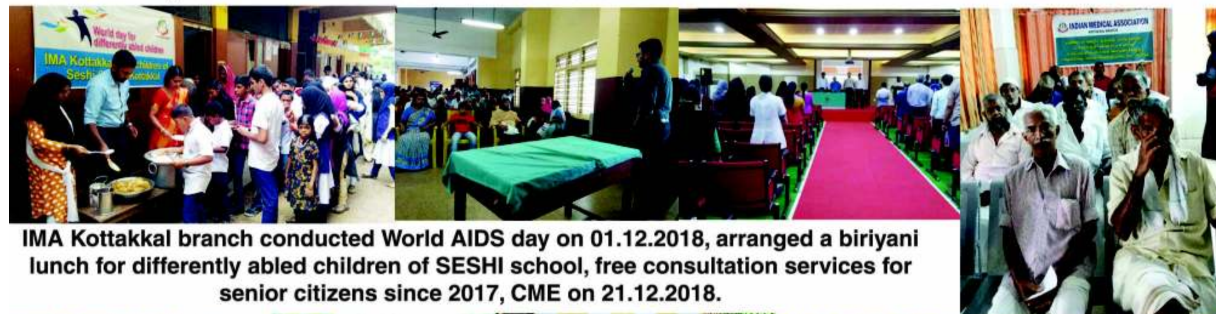
Activities Report

IMA Palakkad Branch organised CME and panel discussion, 10th December. International day for Differently abled persons,Human Rights day and UNICEF day, On 17th December H1N1 Awareness programme & Discussion on Ayushman Bharath on 9th December 2018



IMA Kottakkal branch conducted World AIDS day on 01.12.2018, arranged a biriyani lunch for differently abled children of SESHI school, free consultation services for senior citizens since 2017, CME on 21.12.2018.

IMA Thalassery Branch arranged AIDS day Awareness rally, class, street play etc, International Handicapped Day, Human Rights Day, Road Safety, Medical Camp

IMA Madhya Kerala Branch Organised World AIDS Day, CME, Women Empowerment and Rehabilitation, Workshop on Antibiotic and Geriatric, Children's Day, National Epilepsy Day

Finance Standing Meeting

Birthday celebration of Dr Santanu Sen, MP National President, IMA on 26-12-2018

CWC Meeting

NATCON 2018

Inauguration Ceremony

Dr Santanu Sen, & Dr Ketan Desai with National Leaders of IMA

The New JIMA Team at NATCON 2018

from left
Dr Sibabrata Banerjee, Hony Jt. Sec. IMA HQs & Hony Associate Editor,
Dr. Golokbihari Maji, Hony. Editor,
Dr. Jyotirmoy Pal, Hony. Editor Elect &
Dr. Sanjoy Banerjee, Hony. Secretary

1st Meeting of Dr Santanu Sen, MP & National President with other leaders of IMA at IMA House, New Delhi

JIMA December, 2018 issue Reseased at NATCON 2018 in presence of Past & Present National President, Hony Secretary General, Hony Editor & Hony Secretary, JIMA and other leaders of IMA

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[3]National Statistics Online—Trends in suicide by method in England and Wales, 1979-2001. www.statistics.gov.uk/downloads/theme_health/HSQ 20.pdf (accessed Jan 24, 2005): 7-18.

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