

## SOME REFLECTIONS ON OBSTETRIC PRACTICE AND EDUCATION\*

by

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I deem it a great honour and privilege to be invited to deliver the Sir Kedarnath Das Memorial lecture this year and am happy to have been given the opportunity to pay my tribute to the Doyen of Indian Obstetricians.

When I was asked by the President of your Society to deliver this oration, I accepted with some trepidation, and wondered what subject I should speak on that would be a fitting tribute to the great physician in whose memory we are assembled here to-day. In view of Sir Kedarnath's great interest in medical education and his invaluable contribution to clinical obstetrics, I felt it would be in the fitness of things to share my thoughts on these very vital subjects with you, particularly with regard to changing trends in obstetric teaching to meet current national needs.

Sir Kedarnath Das was a self-made man who rose to eminence by virtue of his great intellectual qualities. Born 110 years ago, he commenced his career in conditions very different from what we consider as the norm to-day. Those were the days when Professorial posts in Medical Colleges were only held by Englishmen, members of the IMS, yet Kedarnath Das by his brilliance (he had topped his batch in the First Class, and was the first M.D. in Obstetrics & Gynaecology from the Univer-

sity of Madras in 1895), was appointed as a teacher in midwifery at the Campbell Medical School. In 1919 he was elevated to the rank of Professor of Obstetrics & Gynaecology and in 1922 became Principal of the Charmichael Medical College. His name and fame had by this time spread to all over the country and to cater to the needs of the steadily increasing stream of women who presented themselves for treatment, the Sir Kedarnath Das Maternity Hospital was opened. Sir Kedarnath travelled far and wide, and in 1930 he was appointed a Founder Fellow of the College of Obstetricians and Gynaecologists of London. He was knighted in 1933, but his magnum opus, for which he will be remembered by posterity, was the publication in 1928 of his book on "The Obstetric Forceps, its history and evolution", for which he collected material from the world literature for over 12 years. His personal library of over 10,000 volumes on Obstetrics & Gynaecology dating back to the 16th century, and his collection of Midwifery Forceps from Chamberlain downwards, has been bequeathed to the Charmichael Medical College, and is a vivid testimonial to the years of labour that went into the birth of his masterpiece. Not content with merely studying the evolution of the Obstetric Forceps, Sir Kedarnath Das made one of his own. This forceps, delicately made, and of smaller size than the Milne-Murray and other axis traction forceps commonly in use at the time, was better suited to the relatively smaller pelvis of Indian women, and

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though the obstetric forceps itself has been largely superceded by the vaccum extractor in modern practice, the Das forceps is still part and parcel of the standard equipment of practically every Maternity Centre in this country.

#### *Changes in Obstetric Practice*

It is difficult for anyone entering Obstetric practice to-day to realize how different things were in the days of Sir Kedarnath Das. Pregnancy and labour in those days were awesome processes which took a heavy toll. Child marriages were the rule and young girls in their teens had the burden of motherhood thrust on them. Infection was rampant, anaesthesia in its infancy, radiology not yet a recognised discipline, ante-natal care perfunctory, blood transfusion unknown and severe anaemia and eclampsia frequent and almost invariably fatal. Intra-natal care was mainly in the hands of illtrained Dais whose ministrations very often led to a stillbirth, and in many cases a life of lingering misery for the mother due to the development of either a vesico-vaginal or recto-vaginal fistula. Maternal mortality and morbidity were consequently high, and the wonder was not that so many perished, but how so many survived. Classical Caesarean Section had been introduced into obstetric practice, but as its mortality at that time was anywhere between 10-15%, it was hesitatingly resorted to, and that too as a last resort. The hallmark of a good obstetrician in those days was his or her skill in manipulative obstetrics, and high forceps application, internal podalic version, craniotomy and decapitation were the order of the day. It was against this background that Sir Kedarnath Das worked. The cultural scene in those days was such that it was difficult for a male doctor to gain the confidence of families of different social strata

to practice midwifery and it is greatly to Sir Kedarnath's credit that by virtue of his professional skill and admirable qualities of head and heart, that he was able to overcome these hurdles, and all male doctors in this country to-day practicing obstetrics owe him a debt of everlasting gratitude.

You of the present generation can have no idea of the conditions under which the earlier obstetricians had to work. The teaching in those days was that since pregnancy and labour were "natural processes" they should be left to nature, and those attending on labouring should observe "masterly inactivity" till signs of either maternal or foetal distress became evident. Waiting to interfere till either of these developed often led to an unfavourable outcome for mother or child, or both, and now we rightly interfere much earlier and believe in giving nature timely help in all the stages of labour. This change in obstetric thought has been highlighted by Sir Norman Jeffcoate in his Simpson Memorial Lecture delivered in the Royal College of Surgeons of Edinburgh on 26th March 1976. In institutional practice, the trend to-day is towards the increasing use of the induction of labour and active management of labour in all its stages. To-day it is regarded as totally unjustifiable for any labour to last through two nights, even in a primigravida. The pitocin drip has come to stay, and in conjunction with amniotomy can substantially reduce the first stage of labour. The second stage can be curtailed in a high proportion of cases by a timely episiotomy with or without the application of low forceps or vaccum extraction, and the third stage is speeded in practically every stage with prophylactic oxytocic administration along with cord traction employing the Brandt-Andrews technique. In my student and

house-surgeon days cord traction was listed as a cardinal sin. To-day judiciously employed, it is part of standard obstetric practice.

There is no doubt that consequent on the discovery of sulphonamides and antibiotics and the availability of blood transfusion and anaesthesia for obstetric operations, and the institution of regular antenatal care, maternal mortality and morbidity began to register a steady decline all over the world, but important as these discoveries were, the most significant and far-reaching change in obstetric practice occurred when the old Classical Caesarean Section was replaced by the Lower Segment one approximately 50 years ago. This made possible the whole concept of "Trial Labour" and has virtually made obsolete all the difficult and hazardous vaginal procedures such as internal podalic version, high forceps and breech extraction, which were part and parcel of obstetric practice in the past. But useful though the operation is, it should not be performed without proper indications merely as "labour saving device" for the mortality of Caesarean Section, even in the best hands in Western countries, is about 10 times that of spontaneous vaginal deliveries, and complications such as scar rupture and ventral hernia are by no means uncommon after its performance, and though no one now subscribes to the view "once a Caesarean, always a Caesarean" when the operation has been done for a non-recurrent indication such as Placenta Praevia or foetal distress, the next delivery should certainly take place in a well equipped hospital to permit of prompt interference if any untoward complication should occur.

In the early 1930s the maternal mortality rate in England & Wales was approximately 5/1000 births and the combined

neonatal mortality and still birth rates about 65/1000. To-day the maternal mortality rate is approximately 0.1/1000, and the perinatal mortality rate approximately 20/1000. The present day relative safety for both mother and baby is largely attributable to the more active role played by the obstetrician in the management of labour including the increased performance of Caesarean Section, but of course better organization of the maternity services and improvement in the general health of the childbearing community have been important factors.

Having succeeded in lowering the maternal mortality to such a low level, it is but natural that in advanced countries greater emphasis should now be placed on the problem of foetal salvage. Ante-natal paediatrics has become a speciality in its own right, and refined techniques are now available for studying the health of the unborn child and its placenta, or the foeto-placental unit as it is now called. Sonar, hormone assays, enzyme level estimations and amniocentesis are now routinely used in all Western countries to assess foetal size and maturity in all "high risk pregnancies", and to decide when labour should be induced to rescue the child from its unfavourable environment, and during labour the welfare of the baby is monitored with costly electronic equipment and by estimating the pH of the scalp blood of the foetus. Useful as these ancillary aids are in selected cases for optimum patient care, their routine provision in all hospitals in a poor country like ours, is neither feasible nor necessary. It should be borne in mind that even the most sophisticated gadgetry cannot replace sound clinical judgement, and in no other speciality is the cultivation of sound judgement as important as in ours, and this brings me to the second part of my dissertation, and

that is how obstetric teaching has to be modified to meet the current needs of our country.

Reference has already been made to the spectacular fall that has taken place in maternal and perinatal mortality in the last 50 years in Western countries, but we still have a long way to go to bring down our maternal and perinatal mortality rates to comparable figures. Fifty years ago, the mortality associated with child-birth in our country was as high as 20-25/1000 live births. To-day the figure stands at 4-5/1000. This reduction is due to better organization of the maternity services in our urban centres, while in the rural areas where 80% of our population lives, the position is much the same as before. In our villages even to-day many births take place without any supervision, or are conducted by untrained "Dais" with consequences that are well known to you all. It is now 30 years since we attained independence, but the problem of providing even basic health care for our rural population has not been solved by us. At the time of Independence we had 18 Medical Colleges and 24 Medical Schools. All the Medical Schools have since been converted to Colleges, and the Colleges now number 106. The number of students admitted annually to each Medical College averages to 200, and consequently over the years we have trained a large number of Doctors. Why then do we have this dilemma? A large number of the Doctors we train are lost each year to other countries, and most of those that remain gravitate to urban areas with the result that the rural population is denied the facility of even the most rudimentary form of health care. The situation is partly the result of our having adopted a model of health care based on the British system, with emphasis on curative rather

than preventive care in an urban-oriented hospital setting dependent on sophisticated facilities and equipment. Since Independence nine-tenths of the money allocated for health has gone into training Doctors and setting up Hospitals for curative treatment in urban centres, and very little has been utilised for preventive health measures in the rural areas, such as providing safe drinking water, drainage and effective sewage disposal which would have by now yielded rich dividends. The solution for improving health care therefore does not lie in merely increasing trained medical manpower, but rather on diversifying the basic preventive and curative services so that the maximum numbers could benefit from them.

Since the state of the villages is such that for many years to come, urban trained Doctors will fight shy of living and working in them, some alternative form of health care delivery has to be evolved. Spurred by the spectacular results obtained by the "bare foot doctors" in China, a scheme has recently been launched as you are aware, by Government for training village level workers selected by the villagers themselves, for the basic health care in the rural areas. The fear that such poorly trained people would prove a hindrance rather than a help is belied by the Chinese experience. A sobering thought is the fact that a large number of diseases can be prevented with little or no medical intervention if only people knew how to prevent them. Health should not be considered in isolation, but as part of "total development" and the local village workers can with a little training be able to recognise malnutrition, carry out immunisation campaigns against Diphtheria, Pertussis, Tetanus and Smallpox, help in the elimination of pests such

as flies, rats and mosquitoes which are the vectors of disease and be utilized for the first line treatment of minor ailments. As they are members of the village community itself, they would be acceptable to the village folk, who would consult them readily and be receptive to the advice given by them. Teaching the traditional births attendants (Dais) found in every village simple things such as the importance of washing the hands and using flamed sterile instruments to cut the cord could go a long way to prevent disasters such as neonatal tetanus which to-day take such a heavy toll. An attempt, long overdue, is now being made to build up numerous pyramids of health care to cover the entire country. The base of the pyramid is made up of these village level workers who must clearly understand their limitations and be taught to refer cases which prove refractory to their ministrations to the PHC to which the village is attached and where trained Medical Staff is available. If the case requires expert help beyond the facilities that the PHC can provide it will have to be referred to a higher institution such as a District Hospital or a Medical College Hospital, or staff from these Hospitals should come to the PHC. It will thus be readily appreciated that the apex of the pyramid is formed by Teaching or District Hospitals, with the PHC and its Sub-Centres as the middle tier, and the community with its village level workers as the base. The PHC thus becomes the focal point for the Community Health Services. To-day there are about 5,300 functioning PHCs in the country, each catering to a population of 80,000 to 120,000 with a Sub-Centre for every 10,000 population. It is estimated that for proper coverage there should be one PHC for 50,000 population, that is roughly twice the number

we have at present, and it is in this context that our training of medical students needs to be drastically revised to cater to national needs.

Our teaching system like our system of medical care, has been modelled on the British pattern. All our Medical Colleges are situated in large towns, and the teaching imparted, up to quite recently, totally institution oriented. The bulk of the teaching programme consists of didactic lectures with few opportunities for practical work. It is true that according to the regulations of the Medical Council of India, each student has to conduct 20 cases of labour and remain in residence for a period of one month in the Maternity wards, but this condition is rarely implemented, and the 20 labour cases very often shared between two or more students. In the wards case histories are presented, and clinical entities and their diagnosis and treatment discussed, but the student gets no idea of the patient as a person in relation to her home or her environment. Social customs and factors play a very vital role in Obstetric practice, and unless we can stress these factors and take students out into the community so that they can realize the impact of environmental and social factors in the genesis and progression of disease, we will not be turning out the right type of Doctors. In other words, we have to introduce what W.H.O. has termed "Social Obstetrics" in our curriculum. You might well ask what is "Social Obstetrics" and how does it differ from the teaching we have been giving up to now? Social Obstetrics can be defined as the delivery of comprehensive Maternal and Child care in the social environment of the family or community. It has many more components than merely Obstetrics and Paediatrics, but includes Gynaecology, Family Plan-

ning, elementary health administration and organization of immunisation programmes. All these components need to be taught, both in theory and practice, and this can only be done by Collaborative teaching between the Departments of Obstetrics & Gynaecology, Paediatrics and Social and Preventive Medicine, both during the undergraduate and Internship periods. It is most important that the trainee Doctor should realise that mother and child constitute a single unit, and that the welfare of the entire family and community is closely linked with their health and welfare. Family Planning should be an integral part of this training and stress should be laid whenever possible on the profound influence of the proper spacing of births on the health of both mother and child. This concept is different from the rigid compartmentalized training the student receives in these disciplines at present, but it is only physicians who have been exposed to this type of training who will be able to successfully man the 5000 odd PHCs in the country and deliver the comprehensive package of M.C.H./F.P. services that constitute the prime need of the country at present.

The curricular content of such a training programme needs to be carefully worked out. Since every Medical College now has a rural and urban field practice area attached to it, this should not be difficult, but one of the first prerequisites for its success is that teachers from the three participating disciplines should by rotation be in residence in the rural field practice area so that the teaching is not merely theoretical but has a sound practical basis, and the trainee is brought face to face with the large number of auxillary health personnel, ANMs and male and female health workers that form part of the "health team" whose work he will

have to supervise after graduation when he is posted to a PHC. This does not mean that institutional training is to be dispensed with. The academic and scientific facts of obstetric and paediatric care must continue to be taught, but the training must have a practical bias and the best time for this is during the period of compulsory Internship. It is unfortunate that we have not made the best use of this period of compulsory Internship. In many Institutions, Interns are used merely as errand boys and get very little practical work. Of the 12 month period allocated to the Internship training, 3 months are for Obstetrics and Gynaecology and 3 months for Social and Preventive Medicine. Pooling these two periods give 6 months for valuable collaborative training in the Maternal and Child Health component of community care. Training in techniques of Family Planning is extremely important during the period of Obstetric posting for Family Planning is an integral part of M.C.H. services. Every Intern should know how to insert an IUD and also the indications and contra-indications for prescribing hormonal contraception. They should be able to identify cases of high risk pregnancies during the ante-natal period so that they can be referred to the parent institution for proper care. They should be made to assist at both Tubectomy and Vasectomy operations, know how to stitch a perineum correctly and how to treat postpartum haemorrhage. They should also be able to conduct a breech delivery and also know how to perform an external version if a breech is encountered in the ante-natal period.

They should be made to perform simple obstetric operations, such as low forceps application under pudendal block anaesthesia. They should also know how to evacuate a uterus in cases of inevitable or

incomplete abortion and also be able to cross-match blood in an emergency. The technique of M.R. and first trimester termination by suction should also be taught and they may be made to carry out these procedures under supervision. They should be taught to carry out emergency resuscitative measures in the newborn, recognise the common ailments of infancy and childhood, give advice on feeding problems, carry out appropriate immunization procedures and supervise the work of the auxillary health workers.

An ambitious programme, but one which is vitally necessary—the challenge is urgent and has to be met, and it would be in the fitness of things if this province, which has been in the vanguard of progress in practically every sphere of public life, and has produced giants such as Sir Nilratan Sarkar, Chitranjan Das, Dr. Brahmachary, Profulla Chandra Ray, Jagdish Chandra Bose, Sir Kedarnath Das, Gurudev Tagore, Swami Vivekananda and a host of others too numerous to enumerate, take a lead in this matter and blaze a trail for other Medical Colleges to follow.

I have so far made no reference to postgraduate training, the aim of which is to produce both specialists and future teachers and research workers. With the phenomenal advances in scientific technology and knowledge in the last 20 years, our speciality has reaped rich dividends in the form of new scientific investigative procedures, simplified and more exact techniques of hormone estimation such as radioimmunoassay and diagnostic and therapeutic endoscopic instruments such as the laparoscope and hysteroscope. The chemical formulae and structure of the different hormones have been worked out, and the role of the hypothalamic releasing hormones have been elucidated. Drugs

are available for the artificial induction of ovulation, and the advent of the progestogens and prostaglandins have not only transformed contraceptive methodology, but have opened up new therapeutic horizons. Conditions such as Rh isoimmunisation which were invariably fatal for affected foetuses in the past, can now be prevented by immunizing Rh negative mothers not already sensitised, with the Rh antiglobulin at the time of delivery, and many affected foetuses can be salvaged by intrauterine transfusion or exchange transfusion at birth. Exfoliative cytology has opened up new vistas in preventive gynaecology, and our postgraduate training programmes should be such as to familiarize all postgraduates with these new innovations in addition to giving them competence in the performance of standard therapeutic and operative procedures of obstetrics and gynaecology. The basic sciences should be included in the curriculum, for to-day's treatment is based on a rational concept of physiology, anatomy, pathology, microbiology and biochemistry to say nothing of endocrinology, genetics and immunology. Ante-natal paediatrics and neonatal paediatrics should be included in the training programme, otherwise we will find ourselves elbowed out of our speciality and once again reduced to the status of "man-midwives". Wide reading should be encouraged and clinical research fostered. Fundamental research, on the other hand, can only be done by those with special training in modern techniques of instrumentation, analysis and experimentation, and promising young postgraduates displaying an aptitude for such work should be selected for such specialized training.

For many years to come, reproductive biology and contraceptive methodology and techniques including newer techques

of sterilisation operations and their reversal, will have to be stressed in our training programmes, for never before has man's reproductive potential posed such a threat to his survival and wellbeing as at the present time. If Sir Kedar-nath Das were with us to-day, he would surely have spearheaded research in this vital sphere. Let us pay a concrete tribute to his memory by dedicating ourselves

anew to the tasks ahead, and thus bring comfort and better health to countless mothers and their offspring.

I know my discourse has been superficial and somewhat rambling, but if in paying my tribute to a Master Obstetrician, I have been able, even in a small measure to focus your attention on these pressing problems, I will not have spoken in vain.