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OBSTETRICS—THEN & NOW

Dr. Dossibai Dadabhoy Bombay Obstetric & Gynaecological
Society's Silver Jubilee Oration

by

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It is gracious on the part of our Society to invite me to deliver this Oration this year. I am perhaps the one present who had the earliest and the longest association with Dr. Dadabhoy.

Dr. Dadabhoy was senior to me by ten years, in age as well as in qualification. Soon after my return to India (1919) I started consulting practice in Bombay. There were no openings for honorary work at the Cama hospital at the time, and the J.J. and allied hospitals were an exclusive preserve of men. I met Dr. Dadabhoy through our mutual interest in Infant Welfare. I left Bombay in 1920 and returned for permanent settlement early in 1925, but even through those years I made a point of calling on Dr. Dadabhoy whenever I visited Bombay. I started consulting

practice again in 1925, and by then Dr. Watts had managed to get a few honorary posts sanctioned at the Cama hospital. Dr. Dadabhoy was already Honorary for Ante-natal Work and had started building up an Ante-natal Clinic, which was still in its infancy, as we had no means of following up doubtful cases. Health visitors started much later. I was taken on as honorary surgeon, which meant much gynaecological and a certain amount of general surgery. Dr. Dadabhoy meanwhile got interested in gynaecological surgery, since she was appointed an honorary at K.E.M. hospital, and thus we often worked together over problematic cases. This association endured with deeper attachment right up till Dr. Dadabhoy retired from Cama hospital. Meanwhile she had been honorary obstetrician with facilities for in-door work and later succeeded me as honorary surgeon when

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I took charge as medical officer in December 1928.

Dr. Dadabhoy was a meticulous worker, thorough in her investigations (with whatever facilities we had those days) and a reliable diagnostician. She built up a good library of references and made careful notes under each heading. She had a quiet and patient mannerism and endeared herself to generations of young residents and post-graduates who had the privilege of working under her.

Through Dr. Dadabhoy's co-operation I could work up much reform in clinical work at the hospital. In fact, the first lower segment caesarean section done in Bombay was at the Cama hospital in 1926, Dr. Dadabhoy assisting me. Prior to this, while working at Bangalore, I had on a few occasions wished to do a lower segment operation but somehow did not feel enough confidence, particularly as I had raw assistants and inexperienced anaesthetists.

Dr. Dadabhoy being a Founder member of our Obstetric & Gynaecological Society took keen interest in its development. In fact she was the first honorary secretary along with Dr. Chamanlal Mehta. She hardly ever missed a meeting. Her gracious and cordial demeanour endeared her to one and all. It was this deep interest which inspired her to endow this Oration, which was primarily intended to be a Silver Jubilee Oration, but, since Dr. Dadabhoy passed away shortly after our Jubilee celebrations, it was turned into a Memorial Oration.

We were fortunate in having had eminent obstetricians and gynaecologists from abroad to deliver these

Orations in the past. The first one was Dr. Yagi of Japan, who spoke on "The Japanese Technique of Radical Operation for Carcinoma of Cervix" a subject very dear to Dr. Dadabhoy. She performed her first Wertheim at the Cama hospital with me assisting her. I still remember the thrill she felt. However, most cases in those early days would come up to us too far advanced for surgery. Dr. Dadabhoy was the first person in India to have Radium for treatment of these and she used it freely on poor patients at the Cama and K.E.M. hospitals.

The second Oration was delivered by Dr. Lash (U.S.A.). His subject was "Vaginal Vault Hernia".

Sir Hector MacLennan gave the third and spoke on "The Place of Manipulative Obstetrics in Modern Practice", a subject which naturally took my mind back to the days when we had to resort too frequently to such manipulations. It is thus perhaps appropriate that I attempt to show up how the subject has evolved within the past fifty odd years.

Our early years were primarily devoid of trained anaesthetists. We had often to rely on raw young residents. Blood transfusions had not come into vogue. Sulphonamides and antibiotics were not known. Asepsis required much vigilance. So altogether we worked under many handicaps. To add to our dismay, ante-natal work had hardly caught up, the majority of the cases being emergencies, often brought in late in labour, after having been handled at home by untrained 'dais'. When I took over at Cama hospital, the end of 1928, the septic ward of 30 beds was always full of acute puerperal sepsis. Anti-

streptococcal serum, intravenous iodine and other potent drugs were tried galore, not always with success. With the advent of sulphonamides and later antibiotics the picture changed almost overnight, and by the time retired (1947) the so-called septic ward hardly had any cases of sepsis and we re-named it as morbid ward, to accommodate post-partum cases of anaemia, eclampsia, dysentery and other general infections, and all cases of abortion. This change was also largely achieved by better attention to asepsis. Introduction of dettol was found very helpful. We had to discontinue the practice of routine vaginal examinations on patients admitted in labour. Some old residents were in the habit of inserting pellets of cotton wool into the vagina with the least delay in labour. This had to be overcome. And thus many a modern practice was gradually introduced.

Ante-natal Work

Ante-natal Clinics did not exist in the early '20s in India. However, they were conducted abroad and I worked at these during my resident days, 1906 & 1918. We thus had fewer surprises during labour. The main emergencies were ante-partum haemorrhages and some cases of prolonged labour, as also eclampsia. The sphygmomanometer did not form part of the armamentarium of the ante-natal clinic in those days. External pelvimetry, abdominal examination and testing of urine for albumin formed the routine. Blood pressure recording as a routine for ante-natal cases came into vogue about the third decade. Records of weight were later addi-

tions. By early '30s maternity work in Bombay had got better organised and the home visits paid by health visitors as also persistent propaganda for routine ante-natal check-ups helped gradually to reduce late admissions.

Jellett's *Manual of Midwifery*, 1910, which formed our text, and along with Galabin's text-book, was studied for qualifying examinations, only referred to possible complications if the excretory organs were not kept in proper order; there is no reference to either hyperpiesia or undue weight gain but only a suggestion for repeated examination of urine for albumin. Whitridge Williams (1920) refers to "Obstetric Dispensary" (equivalent to present day Ante-natal Clinics) for following up pregnant women, and emphasises the need for examination of urine for albumin and sugar as also microscopy. Only in the chapter on eclampsia does he refer to raised blood pressure and oedema as prodromal signs. It is refreshing to see a special chapter on ante-natal care in Masani's recent textbook.

In 1937, McIlroy *et al* gave a succinct account of weight gain in pregnancy, its variations and significance in early diagnosis of toxæmia. And thus we now have a set routine, for recording urine examination, blood pressure, weight gain and oedema at every visit of a patient at the clinic. Detection of early signs of toxæmia and prompt treatment have gone a long way towards reducing the incidence of pre-eclamptic toxæmia and eclampsia.

Anaemia in pregnancy is a subject of deep concern to us in India. It was in 1926 when Dr. M. I.

Balfour took up the investigation of maternal mortality that she noticed a large percentage of cases of anaemia. She arranged for Dr. Lucy Wills to come out to investigate these cases. Dr. Wills brought out many factors responsible for the anaemia, and made helpful suggestions. It is now the routine at our ante-natal clinics to investigate every case and give prompt treatment, so as to ensure better health near term.

The detection and management of Rh incompatibility is a fairly recent development and is making rapid strides.

I need hardly touch here on investigation of cases of disproportion as I shall have enough to state on this subject in another section.

We now look forward to much prevention and anticipation through meticulous care during ante-natal supervision. One fact I see little realised by even some of our specialists, the need for examination in the early months of gestation. Quite often a patient would state that she was refused examination at a nursing-home since she had not completed her sixth month, as if the sole object was for registration at the home! There are many possibilities of complications in the early months, to mention only a few, ectopic, retrogravid uterus, an associated ovarian cyst which may twist, as also systemic diseases which need careful investigation and management. As for incompetent cervix I am afraid too many cases are wrongly diagnosed and treated. We must not allow ourselves to be carried away by all modern concepts, but learn to weigh facts carefully. Abnormal presentations need to be

diagnosed and their aetiology assessed during the ante-natal period. It does not speak well for anyone who neglects to diagnose these during ante-natal examination and then finds himself suddenly confronted by an emergency.

Eclampsia. My first acquaintance with eclampsia was in 1918, when I was house-surgeon at the Maternity Hospital, Birmingham. I had to follow the routine laid down at the institution—the Dublin method, which consisted of sedatives, mostly morphia, chloral hydras and bromide, gastric lavage, an enema followed by bowel washes and instillation of saline per rectum, sometimes submammary saline. Intravenous infusions were not done as a routine. The gastric lavage was a real trial, we put in a wooden mouth gag which had an opening in the centre to allow of passing the stomach tube.

About this time I happened to read about Veratrone, a powerful cerebral and cardiac depressant, and wished to try it on. Veratrone could be given only if the blood pressure was sufficiently high and the pulse rate fast enough to allow of a drop of 50-60 mm. in blood pressure and halving the pulse rate within 20 minutes. The hospital did not have a sphygmomanometer even in the labour ward and I purchased one out of my own income so as to experiment with the drug. I was deeply impressed and later continued its use at Bangalore (1920-24). The mortality was halved. At the Cama hospital, however, the cases were not suitable, for if the blood pressure was sufficiently high the pulse rate was not and vice versa. When I was at Bangalore I used to

study the annual reports of the Government Hospital for Women & Children, Madras, and noticed that they had resorted to repeated venesection to keep the blood pressure down in these cases. This was during the second decade of the century. Early in the '20s they also tried Veratrone, but they repeated it as soon as the pressure rose. I had noticed that Veratrone lowered the blood pressure in 20 minutes but the pressure rose again to its original level within two hours. However, the fits did not necessarily recur and I concluded that the cerebral depressant effect was prolonged.

Eclampsia was the main subject at the British Congress held in 1922. A historical survey was given of the diagnosis and treatment. Lever, (1843), a London obstetrician, was said to have been the first to notice the presence of albumin in the urine in these cases. The treatment followed during 1843-70 was, repeated venesection, morphia if venesection was contraindicated, cold packs, wet cupping and advice against obstetric interference. During 1870-90 venesection was abandoned as Schroder reported that blood pressure rose again. Narcotics were stressed. From 1885-90 the Toxaemic theory was widely discussed and Durhssen advocated emptying the uterus; caesarean section was advised. Stroganoff (1901) advocated his prophylactic method—sedation and reduction of external stimuli. Obstetricians from Dublin advocated their method of drastic lavage, which, according to them, gave encouraging results. Compiled statistics showed 12.3% maternal mortality after natural de-

livery, 9.6% after induction of labour, 14.5% with assisted delivery, 23.6% after caesarean section and 59% when accouchement force was done. The place of Veratrone was also discussed at this Congress.

In 1923, Stroganoff reported a large series of cases treated by his prophylactic method and showed very low mortality. Magnesium sulphate intravenously was advocated in the early '30s after its reported use in cases of tetanus. In 1936, Chamanlal Mehta published a paper analysing cases from hospitals in Bombay, with the trial in succession of the Dublin method, Stroganoff's method and treatment with intravenous magnesium sulphate. This latter had proved very satisfactory. Stroganoff reported on the use of magnesium sulphate in 1937. In 1953, Krishna Menon reported on his trial with sodium thiopentone in these cases, but did not notice any reduction in maternal mortality. Stern and Burnett, in 1954, evaluated modern treatment of eclampsia and noted 7.5% mortality after Stroganoff's method, 4% with Bromethol (avertin), and 1.81% with the use of Veratrone. They do not refer to the use of intravenous magnesium sulphate.

Albuminuria and hyperpiesia, apart from oedema, were the main signs stressed for prophylactic examination at the ante-natal clinics. It was in 1937 that McIlroy *et al* reported on weight changes during normal and toxaemic pregnancy.

Management of Labour

This has undergone much change. Through the years we have evolved more and more reliance on abdominal

palpation, and in only occasional cases do we suggest an internal examination. The older teaching was a vaginal examination when first seen, and a second one on rupture of membranes. These were done as a routine, and in the absence of proper precautions puerperal infections were common. This was enhanced by the fact, that owing to shortage of staff, the same nursing personnel attended on labour cases as also in the lying-in wards; epidemics of puerperal sepsis would break out demanding closure. I discontinued the practice of routine vaginal examinations soon after I took over at the Cama hospital and laid down specific indications for internal examination during labour. Two types of cases were specially subjected to vaginal examination if seen for the first time in labour—a primipara with unfixed head and a multipara, also with unfixed head, in this latter not only to exclude disproportion but to note deflexion and particularly to exclude cord presentation.

In my student days we were taught to preserve the perineum with great care, and had to hold the advancing head in with steady pressure during pains. One of my cases pushed against my superior strength and the perineum was torn! Dr. H. DeSa, father of our popular Juliet DeSa Souza, was my registrar and was positively angry with me! I smiled and offered to suture the laceration but he would have none of it. It was really an opportunity for him to suture a perineum and he should have been grateful to me! At the present day episiotomy seems to be the order of the day and almost every other case seems to be subjected to it.

I recollect how proud I felt as a house-surgeon delivering a case with forceps without a tear on the London district. In the early years caesarean sections were done infrequently and only for absolute indications, for fear of sepsis, as also in the absence of trained anaesthetists, blood transfusions and antibiotics. *High forceps* were often resorted to, not necessarily with disaster—a number of babies were born alive and were apparently normal, nor did the mothers show signs of uterine or lower generative organ tears. The triad of premature rupture of membranes, primary inertia and occiput-posterior position posed a problem—as it does even these days—and we resorted to various devices. Willett's forceps was often used to ensure flexion, descent and rotation, and it did help in some cases. Rotation of the occiput under anaesthesia, and if not achieved gentle turning of the posterior shoulder often helped easy delivery with forceps. One had to be sure to get a good cephalic grip. Kielland's forceps were often used for deep transverse arrest. These difficult manouvres are now supplanted by the vacuum extractor, but even this requires much patience on the part of the obstetrician as also the patient. The point to remember is that once we suspect an occiput-posterior position in labour we have to be vigilant to examine the patient immediately after rupture of membranes, unless the head is already on the perineum, to achieve good flexion with a few pains and thus ensure anterior rotation. I have often done this and taught my residents to be vigilant.

Home deliveries in big cities are

not common these days as patients find it convenient to go to an institution, and there are enough hospitals and nursing homes to suit the convenience of our varied population. However, in earlier years we had many home deliveries. I have often had to do forceps deliveries in homes, where one got minimum assistance. Sometimes there was only a midwife in attendance. I had to induce anaesthesia, after keeping everything ready. We used chloroform and I would induce and then pass on the drop bottle to the midwife, wash up and apply forceps, all the time keeping an eye on the drops poured and the condition of the patient. I carried a Kelly's strap with me which could be used to fix up the legs. Not every home had a bedstead and thus I have also had to do forceps delivery on the floor. One can manage this by putting the patient in the left lateral position.

Internal podalic version was practised very freely even for persistent occiput-posterior positions which could not be rotated, often resulting in the birth of live babies. Version has also helped in cases of mento-posterior and brow presentations. Transverse presentations, if possible, were mostly treated by version. The cases were usually seen in labour with perhaps the membranes ruptured just recently. Most of these could be treated by internal podalic version, but I have occasionally even done internal cephalic version with good results. Neglected cases were subjected to *decapitation* or *embryotomy* if the head and neck were beyond reach. These cases were a real trial and required careful manipula-

tions to prevent uterine rupture. Blond-Heidler introduced the wire saw in the early '30s. McKintosh Marshall (1937) reports on its use. Mitra & John (1950) reported favourably on a series of cases treated with this thread saw as they termed it. Being thin it could easily be manipulated over the impacted neck and, once encircled, it could be worked from outside. With the decapitation hook we had to keep the hand in the pelvic cavity all throughout our manipulations to prevent the maternal soft tissues from being lacerated. We procured a wire saw for the Cama hospital but by that time we hardly had any cases of neglected shoulder presentation and thus I had no occasion to try it.

We had many more *craniotomies*, owing to late admissions, and often had to resort to the combined instrument.

Willett's forceps came on the scene nearer the '30s and was used freely for cases of lateral or marginal placenta praevia. I have already mentioned how we tried it on cases of occiput-posterior positions. Records of 1940 at Cama hospital show 23 applications of Willett's forceps, only two of these being for placenta praevia; the rest of the applications were for achieving flexion or encouraging descent of vertex. The 1950 & 1960 records show no applications. At N.W. hospital, Willett's forceps seems to have been used only for placenta praevia. There were 4 applications in 1931, 10 in 1950 and nil in 1960. Obstetricians at Manchester do not seem to have been enamoured of its use, for there were only 5 and 4 cases in which Willett's

forceps was used in 1933 and 1938 respectively. It was also used in those days to lift up the head in lower segment caesareans.

In those early days we reserved lower segment *caesarean section* for cases in which the lower segment had been well formed. Classical caesarean was practised much more often, partly for speed. Juniors were always made to start with the classical operation, as it seemed easier under the circumstances. The following table gives an idea of the relative incidence of various obstetric operations at varying periods.

TABLE I
Obstetric Operations

Year	Hosp.	Caesarean class.	Section L.S.	Forceps	I.P.V.	Destr. Ops.	Total Del.
1930	C.H.	15	8	51	14	12	2189
1940	..	28	33	107	24	21	3055
1950	..	9	27	58	10	8	3230
1960	..	5	91	90	7	2	4962
1931	N.W.H.	12	4	58	71	11	4467
1940	..	5	26	82	40	27	5091
1950	..	6	73	128	38	31	7717
1960	..	6	189	204	41	14	8540
1933	} St. M.'s	100	33	175	33	20	2448
1938		} Manch.	32	77	223	10	14	3313

MacLennan reports an increase of caesarean sections at Glasgow from 2% in 1930 to 6.1% in 1960. Internal podalic version was done on 49 cases in 1930 (20 of these for placenta praevia) and only 9 in 1960—all these for malpresentations.

It will be noticed from the above table that the lower segment replaced the classical method by early '40s. We performed our first lower segment caesarean section at the Cama hospital in 1926. Lawrence, of Leeds. re-

porting on caesarean sections done during 1926-48, mentions that classical caesarean was done exclusively till 1931 when the first lower segment operation was performed at the hospital. However, Wilson, of Liverpool, reports a series of lower segment caesareans done by 1931. A statistical survey of caesarean sections was presented at the All-India Congress held at Ahmedabad in 1964. This brought out interesting data. The largest survey covered a period of 33 years. The incidence in recent years at the different centres varied from 2-6%. The commonest indication was cephalo-

pelvic disproportion; placenta praevia stood next in frequency. Malpresentations seemed to give a higher incidence of late, being 17% at one centre; however, the majority reported 6-7% incidence. Most of the centres were in favour of lower segment caesarean, 10% being the highest incidence of the classical operation. Maternal mortality varied from 0.5-2%. The longest survey, covering a period of 33 years, showed a marked reduction from 13.7% (in pre-anti-

biotic & pre-transfusion days) to 1.6% in recent years; mortality in cases of placenta praevia showed a reduction from 21.2% to 1.3%, due to more frequent resort to caesarean section. One of the surveys covers data from two institutions—one catering for the masses and the other for middle class families, mortality for the former being 3.5% as against 0.85% in the latter.

A recent survey in India on the behaviour of the caesarean scars in subsequent labours revealed 3 ruptures of lower segment scars against a total of 166 cases, giving an incidence of 1.9% ruptures. (Pinto Rozario *et al*). This cannot be viewed with impunity.

The indications for caesarean section having been liberalised, we find a larger number of operations being performed each year. Eardley Holland (1921), investigating cases of caesarean section and particularly the behaviour of the scar in subsequent pregnancies gave a graphic account of this in relation to the performance of the section at different stages of labour. Only classical operations were done in those days, either by election, early in labour or later, particularly after rupture of membranes. In 1921, Munro Kerr made a report on lower segment caesarean section. Reports to date show a markedly lower incidence of ruptures after the lower segment incision, 0.5% as against 2.5% of the classical operation. I feel that even this can be lowered by meticulous attention to suturing and to pelvic toilet. Early evaluation of cases to prevent undue prolongation of labour ere caesarean section is done and thus

forestalling marked thinning of the lower segment which would mean strained blood supply, will go a long way towards minimising weakness of the scar. I have noticed a tendency of late to widening the opening in the lower segment by fingers. The endometrium invariably pouts in these cases and is liable to interfere with adequate suturing. A recent report evaluating the incidence of ruptures after lower segment incision, discusses the manner of suturing the incision and corroborates my point of view. (Waniorek).

I recollect a case of a multipara who had had a low vertical incision in a previous pregnancy by one of my colleagues. During the next pregnancy we had kept her in, nearer term. I was telephoned one night when she started pains. I arrived in less than half an hour. Meanwhile the pains got so strong that the resident gave her whiffs of anaesthesia. The membranes ruptured as I entered the theatre and I felt the head getting into the brim. We decided to wait and watch the outcome for a while, but within a few minutes the pains subsided and we felt the foetal parts superficial. On laparotomy we found an extensive transverse tear in the lower segment even involving the bladder. The original scar was intact and firm. I felt proud of my colleague for having sutured this with meticulous care.

Classical caesarean sections in the early years meant eventrating the uterus and careful packing off of the peritoneal cavity to prevent possible infection. The baby was delivered by pulling out a leg. However, in my house surgeon days at Birmingham

the honoraries I worked under incised the uterus in situ, thus necessitating a shorter abdominal incision. Later in my practice I resorted to the low vertical incision of the uterus and always brought the presenting part out first, so that there was less chance of asphyxia.

The indications in the early years were all types of contracted pelvis and some repeat caesareans. The term "disproportion" was mentioned later. We used to see a number of cases of osteomalasic triradiate pelvis, the ricketty flat, sometimes also triradiate, and the generally contracted pelvis. We relied much on external pelvic measurements and based our calculations on their relative values. I have even seen internal pelvimetry done in my house surgeon days, 1918. Munro Kerr gave careful directions for this in his 1916 edition, but by 1937 he confessed that he had given up the practice nearly 20 years ago. He gives a detailed study of radiological pelvimetry in this the 4th edition, Caldwell & Moloy gave a succinct account of morphological types of pelvis in 1933, which helped much to clarify our ideas on pelvic disproportion. My friend Masani does not even give a description of internal pelvimetry in his textbook. He just denounces it. At the present day I expect you rarely see the extreme types of contracted pelvis, the problem centering round the relative proportion of the foetal head and the pelvic capacity. Various methods of assessment are practised. Our revered friend, the late Dr. N. A. Purandare, also evolved one. Radiological pelvimetry is resorted to in cases of doubt, but, of course, the final crite-

ria are the uterine force in labour, the position and flexion of the vertex and its mouldability.

Foetal results were disappointing, as, with the resort to high forceps and internal version, we had a higher percentage of still-births and cases of intracranial stress. Much of that has been improved on by timely resort to caesarean section. The incidence of premature births, however, has barely been lowered through the years. In our country at least it is largely dependent on malnutrition and other general factors.

This brings me to the question of *Induction of labour*. Our indications were wide and methods quite quixotic.

Induction of premature labour was advocated and largely practised in the British Isles. It was not viewed with favour on the continent, nor did Whitridge Williams (U.S.A.) approve of it. In his 1920 edition W. Williams deprecated its use for pelvic disproportion and gave figures to show that most cases of anticipated disproportion delivered normally at term. The earliest method used was artificial rupture of membranes, advocated at a meeting held in London in 1756. This method has held its ground through the years and is almost the only one resorted to at the present time. The early obstetricians relied only on low rupture of membranes. It was noticed as time passed on that mere rupture of membranes usually meant a long latent period with risk of intranatal infection to mother and foetus. Watson's method of medical induction came later into vogue and

was either used exclusively or in combination with rupture of membranes. Drew-Smythe introduced his special catheter for high rupture of membranes in 1931, claiming that this method preserved the forewaters and thus the presenting bag of membranes as also minimised the chances of infection. Theobald advocated intravenous pituitrin drip in 1948, soon to be replaced by pitocin and recently by syntocinon. At present this drip method, with or without rupture of membranes, is used almost exclusively.

It will be interesting to go back to the prevalent practices early in the century. Krause suggested the introduction of *gum elastic bougies* in 1754. The bougies, usually 3-4, were inserted between the uterine wall and the membranes, and proved more effective in initiating pains. However, they did not necessarily work and, moreover, being made of gum elastic material, they could not be boiled and hence the chances of infection were present and actually reported on. I had occasion to use these both in London and at Birmingham (1918) but not one case got septic. I worked under six honoraries. Each one had his own convictions and thus I had the opportunity of seeing different methods practised. One honorary required the bougies to be removed at the end of 48 hours, if labour had not set in, and a fresh set inserted. Another honorary wished them left in till labour set in. I recollect a case who took four days to go into labour and the bougies literally came out in bits; anyhow she did not get septic, although we had no antibiotics to give cover.

Early '30s introduced us to Fitzgibbon's method of insertion of the *stomach tube*. This being made of rubber could be boiled, and being softer just coiled round within the lower segment, as contrasted with the rigid bougies which had to traverse up the uterine wall and occasionally endangered the placental insertion. Distension of the lower segment acted much more effectively and ensured onset of labour pains within about 12 hours. We have tried both these methods. I recollect a case which we induced by inserting the stomach tube. She started labour but the head kept high in spite of good pains and full dilatation—obviously a wrong assessment. She needed a caesarean section at this stage but fortunately there was no sepsis. This was also in the pre-antibiotic days. However, cases of sepsis have been reported and, moreover, the stomach tube was discredited as it seemed to displace the presenting part.

De Ribes' bag had also been used to induce labour, but this requires a patulous os, as would be possible particularly in cases of placenta praevia. The original bag was made of rubber silk solution and thus could not be boiled. In later years it was made of rubber and thus could be used at short notice, but by this time the bag had almost gone out of fashion. I have used the bag on a few occasions for inducing labour in cases of placenta praevia and once for a case of accidental haemorrhage. The bag plugged the placental site in cases of placenta praevia and effectively brought about pains and full dilatation. The one disadvantage of its use was that one had to be alert nearer

the time of full dilatation and expulsion of the bag. In some cases the presenting part followed the bag and all was well; but if it did not, one had to either use forceps or do an internal podalic version promptly to forestall severe haemorrhage.

The bag was used frequently in England till the early '30s. It is interesting to note the change in practice at Manchester, the number of bougie and bag insertions having dropped considerably within five years from 35 to 11 and 20 to 3 for bougies and bag respectively; the bag was also used mostly for induction in cases of disproportion.

Gibson, of Belfast, commenting in 1952 on surgical inductions of labour done during 1946-50, reports 843 surgical inductions during the five years, an incidence of 9.9% of deliveries; bougies were used in 82 cases and the stomach tube in 9 cases. He warns against the use of both these, in view of a high incidence of sepsis.

During the thirties and forties there was a higher incidence of inductions at hospitals in the British Isles as compared to our figures. This was evidently due to regular antenatal supervision of a proportionately larger number of cases and their selection for induction. Induction of premature labour was primarily a British practice. The main indication for induction of labour in the early years, apart from pre-eclampsia and eclampsia, was pelvic disproportion, particularly as caesarean section in those days carried a high mortality. With the safety ensured these days for caesarean section, in view of modern aids and the introduction of the lower segment operation, induction

of premature labour for disproportion has been almost given up. Again, with proper ante-natal care preventing the development of severe toxæmia, this indication is also minimised, and now we are mostly confronted with the problems of post-maturity and intra-uterine death of the foetus. For this latter, instillation of saline or glucose solution into the amniotic cavity has recently been advocated and even recommended by some of the leading Indian obstetricians. But I feel a revulsion towards this method. I just cannot get reconciled to it, but this is a personal opinion.

I have often used a rectal tube or a thick catheter in earlier months—5-6 months—for cases of chronic nephritis and have invariably succeeded in bringing on uterine contractions within 12 hours and with no signs of sepsis during convalescence.

I was not happy about the use of laminaria tents for inducing abortion, though the indications were few and far between. If induction of abortions is liberalised, perhaps the latest introduction of the suction method (Vojta & Jirasck) may help to save a number of lives which would otherwise be lost under other methods. However, even the suction will need caution, for one can imagine an accidental perforation during introduction of the instrument, into which even intestines can be sucked out. We have to remember to be gentle in our manipulations whatever obstetric operation we undertake.

Placenta praevia

Most obstetricians in the early days relied on pelvic methods of delivery

for this complication. Artificial rupture of membranes as such if there were good pains to fix the head, or followed by the application of Willett's forceps and weight traction, or alternatively external podalic version so that a foot could be brought down if bleeding started, were practised for minor types. Bi-polar or internal podalic version was practised freely for major types, even perforating the centrally situated placenta. As an alternative De Ribes' bag was suggested and used in cases of marginal placenta, particularly as it ensured better foetal results. I have used the bag in my house-surgeon days and even at the Cama hospital. Vaginal plugging is condemned by modern teachers and I agree with them, but it is a stand-by as a temporary measure to allow of transport of a case from a distance to a well-equipped institution. I recollect having had to resort to plugging in the early '40s in a case who bled freely—the cervix was not sufficiently dilated for other methods—a clear case for caesarean section, but the relatives were adamant. The cervix dilated after about 8 hours with good contractions

induced by the plug and the patient delivered, of course a still-birth. Puerperium was normal.

At the Cama hospital, in 1930, there were 23 cases of placenta praevia and only one caesarean section was done, there being an additional indication of contracted pelvis. In 1940 we had 60 cases of placenta praevia and 8 caesareans were done for these, 3 of whom also had contracted pelvis. No caesarean sections for placenta praevia are reported from N.W. hospital in 1931 and 1940. The following table illustrates the trends in management of placenta praevia over the years. Caesarean section has almost replaced internal version; De Ribes' bag and Willett's forceps have practically been discarded.

An interesting report on Unavoidable Haemorrhage appears in the British Empire journal (1936) wherein x-ray diagnosis of placental site by injection of Uroselectan B into the amniotic cavity is described by Munro Kerr. Instillation of radio-opaque solution into the bladder and later soft tissue skiagraphy gradually evolved and proved helpful. Prior to these skiagraphic aids in diagnosis of

TABLE II
Operative Delivery—Placenta Praevia

Year	Hosp.	I.P.V.	C.S.	Bag.	W.F.	Total Del.
1930	C.H.	4	1	2	....	2189
1940	..	3	8	....	2	3055
1950	....	2	3	....	....	3200
1960	....	4	18	....	....	4962
1931	N.W.H.	30	....	....	4	4467
1940	....	13	....	....	9	5091
1950	....	7	10	....	10	7717
1960	....	1	28	....	.....	8540
1933	} St. M.'s } Manch.	14	4	1	5	2448
1938		7	13	....	4	3313

placenta praevia we had to rely on internal examination which we now strongly deprecate. The above report gives compiled statistics of maternal mortality after different methods of treatment—artificial rupture of membranes gave the lowest incidence—1.2%, next comes caesarean section 1.7% then bipolar version 3.4%, expectant treatment 3.6%, forceps 4.1%, vaginal plug 5%, Willett's forceps 5.2%. Internal podalic version does not seem to have given any deaths. The statistics of course have to be weighed against the type of placenta praevia and the condition of the patient when treatment was instituted.

Macafee of Belfast (1945) reports 174 cases of placenta praevia, collected from 1937-44, wherein he advocates expectant treatment under observation to ensure nearer maturity of infants. He warns against vaginal examination and reserves version only for immature and dead foetuses. He advises caesarean section for type II posterior placenta and for types III & IV, and thus his results were very satisfactory, maternal mortality being 0.57% and foetal 23.5%, as against 6-7% maternal and over 50% foetal mortality in other series.

Management of the third stage was rather primitive in the early days. We were taught and continued to teach the Crede's method of expression. Ergot preparations were the only ecbolics we had and these could not be given till after the placenta was out. We thus often had post-partum haemorrhage and had more frequently to resort to manual removal of placenta. Modern practice of injecting ergometrine or methergin at

the delivery of the anterior shoulder and the use of Brandt-Muller method of expression, with caution, help prevent post-partum haemorrhage. The recent introduction of syntometrine will ensure early and prolonged action. Most obstetricians these days have blood grouping and Rh factor noted during pregnancy so that no time is wasted if a transfusion is needed.

Post-natal care is not sufficiently stressed even at the present day. It is our responsibility to see that each case comes back to normal involution. Subinvolution and chronic retroversion are common sequelae and should be guarded against. I make a point of advising regular abdominal and perineal as also knee-chest exercises from the second week of parturition, and examine the patient at the end of four weeks. Those of you who are for giving contraceptive advice should take this opportunity of doing so.

Comments

I have dealt with only a few of the outstanding problems and variations in obstetric practice. Obstetric Art has passed through various evolutionary stages culminating in the widening of indications for caesarean section and the safety of lower segment section, so that most young obstetricians of the present day seem to think largely in terms of caesarean section, low forceps or vacuum extractor.

Sir Hector MacLennan very aptly stressed the need for study and consideration of some of the time-honoured vaginal manoeuvres which can still have a place in our obstetric practice, particularly in view of the

vast rural population who would still present problems. Even in our big cities we cannot boast of having every pregnant woman under observation, and thus emergency admissions, sometimes late in labour, do occur. We have thus to keep an open mind and be prepared to tackle cases according to indications. Caesarean section is not the panacea for all emergencies even under an antibiotic cover. The aim of obstetricians is the preservation of life and normal health of both mother and child. Caesarean section is after all a major operation involving, apart from a psychic trauma, potentiality of scar rupture how-so-ever remote it be. Obstetricians should take up full responsibility for the management of expected difficulties or complications right from the start of labour pains. It is not right to step in only when the patient has been allowed to go on in labour till difficulty or complication presents itself, as for example in cases of occipito-posterior position which may either remain persistent or rotate partially only to give a deep transverse arrest; timely flexion at rupture of membranes often ensures anterior rotation. Again a cord presentation can be detected early and replaced so as to help a normal delivery. Every case of pulsating prolapsed cord need not necessarily mean a caesarean section. A caesarean section in a case of neglected transverse presentation with a dead or moribund foetus would be an unfortunate procedure. The fear of rupture of uterus is usually put forward but the cases need careful evaluation. I do not think we had an unusually high incidence of ruptures through the inter-

nal manipulations we were called upon to carry out. Proper judgement and gentle manipulations should be our armamentarium. I recollect an instance of misjudgement, through want of experience, in my resident days. A multipara was brought in with an impacted breech. She had an anxious look and the uterus was tense. Instead of extracting the breech as such—it was almost distending the perineum—I passed my hand up and brought down a foot. The patient delivered soon after, but the placental expulsion was delayed. I passed my hand up for manual removal, to find the placenta behind a tightly contracted uterus and just under the peritoneum! It was evidently a case of threatened rupture which I helped to complete. The tear was subperitoneal and fortunately the patient made good progress. Such cases are best in the hands of experienced obstetricians.

In my students days in London the professor, when giving us practical demonstrations in obstetric operations, brought over a few preserved fetuses to practise on. There must be some way of preserving fetuses in a malleable state for practising manipulations. At Bangalore a number of still-births were left to the hospital for disposal and I used to take this opportunity of getting students to practise various obstetric operations on these. In Bombay even a non-viable foetus was claimed by the relatives! Some of you may be able to devise ways of getting fetuses for practical demonstrations.

We want our future generation of obstetricians to be well equipped with the right use of judgement over the

problems confronting them and sufficient confidence in resorting to whatever obstetric procedure the circumstances dictate.

Once again I would like to remind my young friends that their aim should be to give meticulous care during the ante-natal period to prevent complications, and unstinted vigilance during the early stages of labour so as to ensure an easy and safe delivery, with the birth of a healthy baby. There is always a deep satisfaction in having prevented a caesarean section than doing it on the least pretext.

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