"Obstetrical Statistics"

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Obstetrical Statistics

with special reference to

The differences between Primiparous & Multiparous Labours

It is of interest to study how the Pregnant Woman is affected in relation to the question whether she be a Primipara or a Multipara, how far the complications that may arise are dependent upon this fact & to what condition in each we may assign the relative frequency of disturbances of the normal process of Pregnancy.

Having had the good fortune to obtain access to the record of a series of Midwifery cases occurring in the practice of a General Practitioner, I have thought that it might be profitable to form statistics of the relative frequency of normal & abnormal labours, to compare more especially the conditions found in patients as regards the question of their Primiparity or Multiparity & to draw any deductions that I can as to complications & how their occurrence depends upon the age of the woman & the number of her Pregnancy.

Obstetrical Statistics are generally drawn from the reports of Hospitals; hence the record of cases occurring in private may bring out
some points which are not to be found in those taken from Hospital experience.

Primiparity involves special danger both to mother & child; therefore it is a subject of interest to study its peculiarities & its dangers as distinguished from those of labours which may follow it. To see how the Primiparous woman is situated during the period of pregnancy, at the time of parturition & during the puerperium.

First & foremost we must place the highly nervous temperament which is generally found in the Primiparous patient. This influence must be ever taken into account; but independently of the physiological condition, we find certain states in the body & the parturient passages which are due to the fact of her being a Primipara.

As regards the three factors of parturition we may generally affirm that the relations between the mother & her offspring are affected in the Primiparous woman by a disproportion in size between the passages & the passenger - the powers being normal; while in the multipara we have discrepancies arising rather in the position of the passenger to the maternal passages - the powers also being often affected unnaturally. Complications in Primiparae
are most frequently due to mechanical difficulty while multiparas are liable to complications connected with general or local diseases. This being altogether apart from mental conditions.

Proportion of Primi parous to Multiparous Cases.

In F. Collins report of the Rotunda Hospital there were 11,445 multiparae to 4969 primiparae, or 1 P. to 2.5 M. In the Registrar cases 4,535 P to 5,921 M, or P to 2.03 M.

My cases are 2788 multiparae to 754 primiparae or 1 P. to 3.7 M.

Matthew's cases (208 in 1859, 692 in 1860) give P to 5.2 mult.

In a maternity hospital so many unmarried women are confined that it is not surprising that the former reports give a larger number of primiparae.

Let us look first at the diagnosis of a 1-parous woman from one who has already borne children.

In the Physical Examination of a woman pregnant for the first time we find:

The breasts prominent, tense & sensitive to pressure. Milk may be not present, if present it is an almost certain sign of pregnancy. The skin of the abdomen is smooth & firm, a tense. Palpation is difficult so that it is not easy to map out the underlying Uterus & its contents. By pressing the Uterus it may readily be made to contract. The phæno over the abdomen appear late in pregnancy & have a reddish-brown or platey colour - look "fresh".
Vaginal Examination. The labia are in contact with the promontory. Introduction of the examining finger is difficult. The hymen is torn, but the torn remains are apparent. The Vesica is hypertrophied and appears as a cylindrical body of a reddish blue colour in the vaginal orifice. The Vagina is narrow with distinct transverse ridges. The enlarged papillae give its walls a granular feel. The Cervix is soft and smooth. When the head enters the Pelvis towards the end of Pregnancy, shortening of the anterior lip takes place. The Os externum is closed or towards the end of Pregnancy after the 7th month (Playfair) admits merely the end of the examining finger. The aperture feels like a round opening with smooth borders at a sharp inner edge where the cervical mucous membrane begins. The cervical canal has a spindle shape. The head in the later months, as a rule, pokes into the Pelvis and bridges the Vagina. (Smith's Midwifery p. 107)

Leishman (Midwifery p. 167) states that the drawing up of the Cervical cavity to form part of the general cavity of the Uterus which is considered by most modern obstetricians to be an incorrect explanation of the apparent shortening of the Cervix in Pregnancy, does not take place in Primiparae. He says: "After the 24th week the obliteration of the Cervix from above downwards becomes more and more apparent until at the termination of Pregnancy, no trace of it can be discovered by the finger when introduced comes into immediate contact with the Membrane." This description will not suffice for Blunt.
parae, the mechanical effect of previous pregnancy seems to be that the cavity proper admits of a more ample distension as that no call is made upon the cavity of the cervix until the termination of pregnancy approaches. The os internum in pluriparae is often found quite impassable at the 36th or 37th week & there remains to the last instead of the thin smooth almost membranous margin of the os in primiparae an irregular edematous lip which is not wholly lost even during the first stage of labour.

This point - the drawing up of the cervical canal so early in pregnancy in primiparae - is not touched on by most writers. Such quoting Shelford says that during the last two weeks effacement of the cervix does take place at least in primiparae. Duncan says it occurs "during the latter days of gestation." May it not be due to the fact that the head lies lower & takes its place there sooner in primiparae than in multiparae. The foetus plunges down into the pelvis in 1-parae during the last 2 or 3 weeks - the weight of the head affects the lower segment of the uterus. The head is pressed down upon into the internal os causing obliteration of the cervical canal or an apparent obliteration by shortening of the anterior lip. This would not occur in multiparae, the lax abdominal walls & yielding uterine walls allowing of the foetus accommodating itself outside the pelvis.

Let us next contrast the appearances which aid us in
affirming that we have to deal with a woman who is no longer a Primipara, that she has already borne one or more children before the present Pregnancy.

In multiparae the breasts are flabby, pendulous, marked with silvery lines, the nipple is large. The abdominal integument are loose & wrinkled. The uterus is likewise relaxed a through the abdominal walls, its outline can easily be defined. The prominent projecting parts of the foetus can easily be made out. In addition to the striae upon the abdomen noted in 1-parae, many of older date possessing a flabby white or silvery appearance can be detected. The older ones being noted early in Pregnancy.

On Vaginal Examination, the vault is found gaping thus admitting readily at least two fingers. The mucous membrane in blue in appearance from the development of superficial vein, the fascia has been torn & is absent or replaced by cicatricial tissue. The carunculae mystiformes alone remain as vestiges of the hymen. The vagina is smooth from the obliteration of the transverse ridges, swelling of the vaginal papillae is exceptional. The Cervix is swollen & has a cylindrical rather than a conical shape. At times it is like a cone with the base downwards. The os is opened to admit the examining finger. This pathological condition is due to lacerations of the Cervix which are the inseparable concomitant of child-bearing. The lacerations are very variable in extent but are rarely difficult of recognition as they are situated usually on the sides of the Cervix almost invariably on the
left side — they convert the os into a wide transverse slit, bounded by a well-defined anterior and posterior lip. The Cervical canal has a funnel shape narrowing above — towards the end of Pregnancy (sometimes before the 9th month) the fingers readily pass through the os internum to the child’s head. The latter rarely descends into the Pelvis before the advent of labours, but either is situated at the brim or rests upon one of the iliac fossae.” (Simpson I: 103)

Spiegelberg says: “The absence or cicatricial condition of the promontorium, the destruction of the line of attachment of the hymen, above all, an old Perineal rent; the cicatrices of the Os are almost pathognomonic. The other signs when present point clearly to a previous labour having taken place but their absence does not disprove such an event. For the feebleness of the breasts or abdominal walls as well as old parts may be absent even after a labour at the full term. ‘All the more so after an abortion or premature labours, and in cases where a number of years have elapsed since a single confinement occurred, traces which were distinct at the time may some of them have disappeared; others have become so indistinct as to be no longer of value’. On the other hand loose and flaccid abdominal walls with marks of antecedent distension such as cracks, fissures of the cutis may be due to some other cause of abdominal enlargement e.g. Ascites or Ovarian Tumour which however cannot produce any of the physical signs present in the breasts or internal organs as the result of a previous Pregnancy.”
Next let us look at the Diagnosis of Pregnancy as affected by the question of Primiparity or Multiparity.

This is important because it is in Primiparae that we are most often called upon to make the diagnosis, as in such patients statements made by themselves as to functional changes are generally of no value.

The presence of milk in the breast of a supposed pregnant woman, if for the first time, is considered almost certain evidence of Pregnancy so with the other mammary changes but in Multiparae the areolae often remain permanently darkened, hence this condition is not much help in diagnosing the presence of Pregnancy in one who has already borne a child. In them also milk may be pressed out of the breast as it may remain long after the cessation of nursing—"even for several years" (Playfair).

The cessation of Menstruation is often no guide as an indication of Pregnancy in a Multipara when in such a woman we may be called upon to decide for or against Pregnancy, conception having taken place during lactation, or after the menopause is supposed to be past, being conditions liable to arise in Primiparae.

The larger proportion of unmarried pregnant women being Primiparae, in their statements as to regularity of Menstruation being valueless, this symptom is uncertain. Sympathetic disturbances of the general system are more marked in Primiparae owing to the more highly nervous temperament of these patients—menstrual sickness and other digestive disturbances as well as mental peculiarities.

Giddiness has always appeared to me to be ignored by 1-parous women. They have not been expecting it a cannot fit upon the date.
If its first manifestation in them too I should think its appearance would be later than in multiparae, for the thick, unyielding uterine wall would prevent the impulse of the foetus being transmitted to the abdominal walls as readily as would the flaccid uteri of the multiparae. The experienced midwife will also perceive the movements which from the presence of a foetus in utero, earlier in pregnancy than one who has not previously had an opportunity of observing them.

Diseases of Pregnancy. So many of these may be classed under the head of Neuroses, that we do not wonder at the fact that most of them are especially marked in women pregnant for the first time.

Nausea and Vomiting. My experience would lead me to state that the severer forms of vomiting, where it is excessive and prolonged, occur most readily in Primiparae. The only two bad cases which I have seen being in 1st Pregnancies. Leichman (p. 235) says "as a rule this symptom is most violent & most frequently calls for treatment in the case of 1-parae." Spiegelberg (p. 342) states "1-parae are more often attacked by this serious disorder than women who have already borne children."

If we believe that the vomiting is to be explained by the "sympathy" between the stomach & the generative organs—the stretching of the uterine fibres by the growing organ being the prime factor—then we can understand how such stretching would be more likely to give rise to irritation in a previously unprepared uterus.
Albuninumuria, according to Playfair, is "comparatively more frequently met with in 1-parae in whom the resistance of the abdominal paries a consequent pressure, must be greater than in women who have already borne children". Another cause may be that the primiparous patient being perhaps more anxious to conceal her condition, will wear tighter clothing, tighten her stays, etc. forth, thus producing pressure upon the renal veins and lead to the congestion which is one of the factors in the production of albuminuria.

Prof. Simpson says that in multiparae with albuminuria, he suspects turns for the more rapid development and larger size of the uterus favored albuminuria. Sir James Simpson says (Coll. Obst. Works) "Albuninumuria, its effects (convulsions, nervous derangement, anaemia) are far more common in 1st than in subsequent labours. These constitute a disease which in general disappears entirely after delivery. Albuninumuria with convulsions occurring in any labour later than the 1st generally results from fixed granular disease of the kidneys & does not disappear after delivery."

Chorea, being a nervous trouble we would be apt to meet more frequently in 1-parae. The fact also that the patients have probably suffered from this disease before their marriage & the nervous irritability incidental
To pregnancy, may, in a susceptible individual precipitate an attack. Speigelberg says: "Primiparae appear more susceptible than multiparae, a fact which depends upon the predisposition to illness which is already present or on the greater frequency with which causative influences - insufficient nourishment of the nerve centres from the impoverished state of the blood - peripheral irritation in the generative organs - operate during a first pregnancy." He also says: "An attack during the 1st pregnancy need not make us fear a recurrence in the following ones." (Simpson Midwifery, p. 348)

Varicose Veins. These, when present in a Primipara, must be looked upon as indicating the presence of some Pelvic abnormality - such as pelvic deformity of the Pelvis - as with edema of the lower limbs when not due to albuminuria. Varicose veins are almost invariable in women who have borne many children - or to look at it from another point of view, varicose veins in the lower extremities in women is caused in a large proportion of cases by many pregnancies.

Displacements of the Uterus are to be met with almost exclusively in multiparae. Prolabios, Retroversion and Anteversion of the full term Uterus. Slight forms of anteversion might occur early in pregnancy in 1-parae but the extreme form of this displacement late in pregnancy would point to Pelvic contraction or Spinal Disease (Spondyli). While it is not a very uncommon occurrence in multiparae especially if they have borne many children.
Abortion. The danger of premature expulsion of the ovum seems to be much greater in multiparae than in primiparae, though some difference of opinion exists amongst authors on this question. Dr. Lykes Smith regarded the danger as greater in 1st than in 2nd or 3rd pregnancies. The latter view seems the more reasonable, seeing that the conditions which give rise to abortion are those to be met with in women previously pregnant, and who have some diseased state of the uterine mucous membrane mimicking the prepregnancy of the ovum. Syphilis is the most important factor in bringing about the death of the foetus; it would be met with more frequently in early married life and less in abortion in the 3rd pregnancy, and in the latter the disease would wear itself out and subsequent pregnancies go on to the full term. On the other hand, Endometritis, Syphilis of the uterine mucous membrane (Suss); and retroversion of the uterus would be present most frequently in women who have previously been pregnant. Age is considered by Dr. Matthew Duncan as an important element in preventing the growth and development of the foetus in utero. He says, "Flowers of various causes: sterility of its allies — excess of production, pluriplacentation, abortion — that can be compared with age in extent and power." Priestly (Lancet, 1881) says, "Age has a marked influence on the continuance of pregnancy, be it the 1st, 2nd, or later pregnancy." Whitehead believed that the 3rd or 4th subsequent pregnancy is one of the least
near the termination of the fruitful period are most commonly unsuccessful. Briestey says "abortion frequently ends the reproductive faculty in women. He also believes that "the social circumstances in which the woman finds her place in life are not without effect on her successful child-bearing. Thus women of the better classes incur much more risk of aborting in their first pregnancy than their poorer sisters from the prevailing fashion of taking long journeys after marriage. If conception begins then, it is very likely to break down as the result of the fatigue incurred combined with the irritation often felt up in the reproductive organs as the result of the new conditions of life.

The habit of abortion which is often spoken of cannot be held to be independent of disease but is more likely due to an endometritis following a previous pregnancy or never properly recovered from before a fresh conception sets up the mischief again.

In my record of cases, 889 women suffered from 1281 abortions. Of these 47 were Primiparae or 5% of the total cases. The primiparae had only one abortion each.

Compared with the total number of patients, Of the Primiparae 1 in 16 had had a previous abortion, while 9 in 100 of the multiparae 1 in 3 had previously aborted.
Labour. The greater number of difficult labours which we meet with occur in Primiparas. Every woman having to pass through this dreaded 1st labour, all her weak points are found out if she pass the ordeal safely, and fell into our hands as a multipara, we are probably warned against any likely danger which has assailed her in her 1st labour & take precautions accordingly.

Let us look first at the duration of Labour in relation to the number of the pregnancy. Spiegelberg gives the average in Primiparae as 20 hours & in multiparae as 12 hours. Sinclair & Johnston in their series of Natural Labours cases give 12 hours & 8 hours respectively. I should think the difference is more marked, that multiparae are not often 8 hours in a normal Labour. In St.ollin's cases 70% were multiparae but the duration of Labour was over 80% of all his cases (multi & Primiparae) was under six hours. Of my own cases the average duration of normal labours in Primiparae was 12½ hours & in multiparae 7½ hours. However I have included in these, many cases which were prolonged beyond the 24 hours which defines a Natural Labour & that has raised my figures.

The reasons for the lengthy labours in a Primiparae are obvious. We have first of all the natural anxiety of the woman about to become a mother for the first
Time - the thought in her mind of the many cases of difficult labour she has heard of, almost all "first", the dread of the unknown, in fact the fear of losing her child should she not be born alive, - possibly also the want of confidence in her doctor, - her nurse, to whom she has been introduced for the first time on the eve of her confinement.

These are all mental troubles ; then we have physical conditions, the more inevitable state of her whole body, the greater force necessary to dilate the passages, probably also the greater pain attending on the contraction of a firm, unyielding uterus. We have the cervix to be dilated - this is rigid. It has no lateral laceration as the multiparas or has, the time required for its dilatation must be long. Then the vagina has to be traversed, this is also unyielding, at last if all we have the Perineum which is the most potent obstacle to a rapid delivery in a Primipara.

Let us take up the mechanical difficulties in a Natural Labour of a Primipara, enervation. First of all with regard to the uterine contractions, the nervous temperament of the patient makes her peculiarly sensitive to labour; this may interfere with the regular action of the uterine muscle. The cervix is rigid & dilates slowly. Spiegelberg (midwifery p. 181) states that the membranes more often rupture prematurely in Primiparae, hence we have here in some cases another cause of delay in the dilatation of the Os, the tissues...
the Cervix are irritated & spasmodically contract. To this may be added the character of the rim of the Os, which is thin in 1-paras & the membranes before rupture cannot act as well on it as on the thick & tough os of 2 & 3. Parities. Sir James Simpson says "Premature rupture of the membranes especially to be guarded against in Primiparae".

When the Head enters the Pelvis, it may be partly contracted by the Cervix & the anterior portion is carried down before the Head & gets jammed between the Head & the symphysis & becomes unyielding from Oedema (Barlow, alluding to here.) The Head entering the Pelvis causes a canalization of the Vagina & this being narrower in a 1-paras than in a multipara here again difficulty & delay will arise.

The Head next coming in contact with the Pelvic Floor has to produce dilatation of the Perineum Where the most resistant part of the Parturient Canal in a Primipara has to be met. The Perineum is in a state of high tension in thick & unyielding, strong pains are necessary for its softening & the increased effort they entail produces nervous irritability which disturbs the balance between uterine contraction & the progress made leading to exhaustion.

A rigid Perineum is the most fruitful source of delay in a Primipara & its irritability more frequently calls for interference for the sake both of Mother & Child than any other condition.
Barnes says, referring to Primiparous "delay at the Vulva is often increased by intense emotional & penile irritation nervous disturbance. The Uterus seems instinctively to desire to contract least by forcing the head upon the nearly penile structures & the Vulva causes intolerable pain. The consequence of the protracted pushing before pain is twofold 1st exhaustion of nerve force, 2nd a condition which I can best describe as shock producing prostration, if not collapse, which supervenes wherever an urgent function is suspended or remains unfulfilled." (O.S. p. 36)

The Vulva gives rise to difficulty even after dilatation of the Perineum. It may form a small rigid oblong scarceley permitting the passage of the presenting head to pass thru it. Duncan also says that often the orifice of the Vagina is not the Perineum is undeveloped or rigid & this condition is seen almost exclusively in Primiparous.

In this connection let us look at the special features of Primiparous Labor in the immature & in the elderly mother. Immaturity as affecting Parturition. Even as ancients wrote as Herophilus has something to say on this subject. "To the female not premature wedlock is peculiarly dangerous since in consequence of anticipating the demands of nature many of them suffer greatly in childbirth, many of them die." (Quoted by Duncan.) Irregularity of the pains is apt to occur in the very young on account of the imperfect development of the Uterine muscle. We
may also have an 'Infantile Pelvis'. The frame is not fully developed, the pelvis is immature and the general condition not such as to favor a normal parturition. Duncan says: "Immaturity increases the mortality of Childbed. If the married or unmarried women between 15 and 20 years of age were in equal numbers, 10 married would die to 7 unmarried." (Duncan Sheldon)

From these statements we are bound to insist that the middle age of women is not reached till the 20th year.

In my cases the Primiparae under 20 years of age number 70.

The average duration of labors was 15 hours: against 14 hours in the case of all Primiparae.

Immaturity on the part of the mother would, however, lead to a smaller size of the child. For according to Duncan, the size of the child increases in proportion to the age of the mother up to a certain point. So he also states that "youthfulness has less influence in producing mortality from parturition than elder age." Elderly Primiparae. Such patients always look forward with apprehension to their labors. This dread is founded upon the popular belief that first labors in elderly women are necessarily longer and more dangerous. Many of them find that this is not the case, but yet we would expect to find greater rigidity in all the parts of the parturient passages in elderly women, pregnant for the first time. Duncan says: "The popular notion of the increased difficulty and danger of first labors in a woman no longer young may find its explanation in part at least in the increased bulk of the child as
indicated by its increased weight length in such women. I have often heard that an old primiparous woman passes through labour more easily than one somewhat younger, and we may possibly find this accounted for by the comparatively small size of the children born in the latter periods of fecundity. Dr. Rogers argues that the wasting of the tissues which occurs after 40 years of age diminishes their resistance so that 2nd labours after that age are easier as a rule than in early life.

On the other hand we have in an elderly 1-para all the possible difficulties to be encountered by a young 1-para, in addition we have such a woman being exposed longer to morbid influences which might produce changes liable to give rise to abnormality, disease of uterus, amenorrhea, dysmenorrhoea, the Cæcum is lower common in them. Spiegelberg gives the average duration of labour in 1-parae over 30 as 21 hours in one series of cases; 27½ hours in another. The page "the duration is mainly caused by the length of the 2nd stage" is especially to be ascribed to the unyielding character of the lower half of the parturient canal, (i.e. its posterior parts) "to the consequent diminishing force or to some other anomaly in the action of the pains."

Of my 754 Primiparous cases 118 were 30 years old or upwards and the average duration of labour 17 hours.

Let us next consider the difficulties which we may expect to meet in a natural labour in multiparae — such disorders of the normal process as are not encountered in Primiparous.
Precipitate labours is rarely a phenomenon to be deplored except for its influence on Post Partum Haemorrhage. Inertia Uteri is most likely to arise in women who have borne many children; frequently repeated pregnancies leaving the Uterus in a weakened condition, giving rise to inefficient contractions; this would more likely arise if the conception have followed before involution from a previous pregnancy had completely taken place.

Cicatrices in the 0s or the Vagina the result of former partition would be met. In multiparae also we encounter more mal-presentation. Extensive anteversion of the Uterus due to a want of support of the abdominal parietes is met with in multiparae, the Uterus is displaced forwards, the fundus in extreme cases hanging downward. This condition would give rise to Deportia until efficiently remedied.

Sedious & Prolonged Labours. G. Duncan in a communication to the Edin Obstet Society, contracts two forms of weak labours which he describes as follows:

1st. depending upon inertia of the Uterus occurring in multiparae who have had many children & are elderly.

The 2nd. occurs in Primiparae or in young women who have a special nervous mobility. The Uterus is mildly but morbidly active; the tonic permanent contraction goes on with premature transition rapidity. The intermittent pains are frequent painful, but insufficient. He calls it "premature uterine retraction."
Presentation of the Fetus.

It is in multiparas that we most often meet with abnormal presentation. This is to be explained by the more roomy capacity of the uterine cavity in these patients, the greater mobility of the fetus, & the consequent readiness with which it changes its position or lies in an unnatural direction. Hydramnios is also more common in them—the greater excess of liquor amnii being due, according to Dr. Simpson, to the laxity of the uterine wall in multiparas. In Mr. Chirtchley's 33 cases of Hydramnios only 5 were Primiparae. (Edin. Med. Journ. Vol. VIII p. 121.)

In Primiparae the fetus earlier adapts itself to the shape of the uterus & lies with its head downwards, & it is more steadfast in retaining this position; it also enters the Pelvis earlier. Valenta in his experiments upon the changes of position which the fetus may undergo during the latter months of pregnancy, found the change occurs more frequently in multiparae, in these in proportion to the number of the previous pregnancies.

Still others state that more abnormal presentations occur in multiparae—Spiegelberg referring especially to cases of breech presentation. The danger to the child must be great when it present abnormally in the 1st labour.

My figures do not give results which agree with those of the textbooks. Abnormal presentation occurred 104 times (exclusive of twin case) in 70 cases in multiparae, 78.75% whole cases, 88 1/2% in Primiparae. These mal-presentations are
made up as follows:

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<tr>
<th></th>
<th>Multipara</th>
<th>Primipara</th>
<th>Total</th>
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<tr>
<td>Breech</td>
<td>63</td>
<td>25</td>
<td>88</td>
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<tr>
<td>Face</td>
<td>10</td>
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<td>10</td>
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<tr>
<td>Shoulder</td>
<td>5</td>
<td>1</td>
<td>6</td>
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<td></td>
<td>78</td>
<td>26</td>
<td>104</td>
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Post Partum Haemorrhage. It is well known to be much more common in multiparous women, those who have borne many children. The liability of the uterus to suffer from inertia atoning or turbulence during after the 2nd stage will readily account for this. It is a complication to be dreaded in patients who have had large families. It is not possible to occur after tedious labours as after tedious subsequent labours. In many cases 30 women suffered from Post Partum Haemorrhage of whom 6 of were Primiparae.

In the same causes we may assign the greater frequency in multiparae if after pains, one of the 1st phenomena which we encounter in the Puerperium, which are almost unknown in Primiparae, unless some shred of the membranes have remained after removal of the Placenta. The uterine contractions post-partum are more efficient, the cavity is thoroughly emptied, and therein no marked relaxation of the tonic contraction which persists immediately after the 3rd stage is over, hence there is no physiological call for intermittent extraction. After-pains are most frequent in women who have borne many children.
Mortality of Childbirth.

In St. Columb's report of the Rotunda Hospital the proportion of deaths in Primiparae & Multiparae is as follows:

Of 4,969 Primiparae 80 died or 1 in 62.6
Of 11,445 Multiparae 84 died or 1 in 136.

Dr. Dunlop states that it is about twice as great in 1st labours as it is in all subsequent labours taken together. All the arrangements, mechanism & care, for delivery are best & subsequent deliveries occur only in those who have so far successfully endured the trial as to survive.

Sir James Simpson says 'more dangerous death occurs both to the mother & child in 1st than in subsequent labours. There is a greater liability to the occurrence of complication in 1st case'. In them owing to the length of the labour, complication are apt to arise; these are generally of a mechanical nature. The strain upon the frantum passages is greatest. The recovery from a prolonged labour must be attended by greater danger owing to the tears both in cervix & vagina being more for the absorption of septic poisoning.

Sir James Simpson lays down as an axiom' the mortality attendant upon parturition increases in a ratio progressive with the duration of labour.'

Looking at the special dangers of Multiparae Barnes says: 'Women who have gone through one labour or two or perhaps three without complications may be regarded as running the least risk from Pregnancy but after the 5th labour I believe it will be found that the risk begins to rise rapidly so that in the 8th or subsequent pregnancy the risk will be fully equal to that of a first Pregnancy.'
Pluriparæ according to my observations are more specially liable to inadaptations, to retroversion of the Uterus, to hemorrhage from Placenta Prævia, from accidental hemorrhage or also from atony of the Uterus — more liable to diseases of the Uterus attendant diseases of Placenta, leading to adherent hemorrhage and not seldom they suffer under labours with minds depressed & powers impaired by the inroads made upon their constitution by previous child bearing & the cases of maternity.

Saborious Labours requiring interference.
The larger proportion of these cases are 1st labours & it may be only in the 1st labours that a woman requires any assistance — the difficulty arising not from disproportion but from excessive resistance, a hasty dilatation of the Os, Vagina & Vulva. This is easily proved by the fact well known to every practitioner that many women requiring the Forceps in their 1st labours have a remarkably easy 2nd and subsequent labours. Exhaustion, fear & shrinking from Pain renders the labors tedious & very often in Primiparæ call for the use of the Forceps. In my cases Forceps were applied 136 times or once in 26 labours, divided as follows 83 times in Primiparæ (or 1 in 9) & 53 times in Multiparæ (or 1 in 52).

In this connection I would like to say that in cases attended by myself I have very often made use of the Forceps. I have attended 67 primiparæ women & employed the Forceps 18 times or once in 3.7 cases. With this traction forceps we have a safe easy
a convenient method of expediting delivery. The progress of the
case is, completely under control, we can hasten matters or leave
Nature to act according as the condition of each case seems to in-
dicate. I believe rupture of the Perineum to be less frequent in
those cases where it does occur, I am bound to believe that the accident
would have happened independently of the application of the Forceps.
The practitioner's time is saved, the suffering of the patient much shortened
by the use of Forceps, where nothing is wanted but a little assistance
to overcome the resistance of the Perineum.

Complex Labour.

Twins. The tendency to the production of Twins is much more
marked in 1-parous women than it is in any subsequent pregnancy. It is
said that 2.3% of all twin births occur in Primiparae.
On the other hand age seems to have some influence, it is observed
that newly married women appear more likely to have twins the older
they are, that wives married youngest have the fewest twins. "The
proportion being 1 in 153 amongst the youngest fertile women while
amongst the older women (from 35 to 40 years of age) every 12th woman
bear twins within 2 years after marriage"
In my cases 59 Women gave birth to Twins, of whom 12
were Primiparae, which gives 20% of the cases in Primiparae

Placenta Previa. Almost all the cases of this pathological
condition are met with in Multiparous. Prof. Simpson gives
Read's statistics showing that of 428 cases, 363 were multiparae, 64 Müller's cases were 1347 in part to 227 P-para.

If we look to the causes of Placenta Previa we see that they are: (1) late found in multiparae; (2) they are: large size of uterine cavity, subinvolution, previous abortion, rapid recurrence of pregnancy.

Spiegelberg says: "Primiparæ contribute about a to if the whole number. Any cases are ten in number. 1 Primipara to 9 multiparae. The age of the former was 23 years.

Prof. Simpson (Edin. Obst. Trau. Vol. IV p. 27) referring to the rarity of this complication in Primiparæ women, says: "From one of the conditions which favour the previal implantation of the Placenta, the Primipara patient is entirely free. I refer to course. 1st the dilatation of the uterine cavity and diminution of size of the uterine wall; that are apt to remain after previous pregnancy, the deleterious influence which is more marked when the new conception follows quickly on the preceding labor or when some degree of subinvolution has remained but 2nd the primigravid female is less likely than one who has already borne children to have been the subject of the chronic inflammatory affection of the endometrium."

It only lead to change in the form of the uterine cavity, but impair the function of the mucosa at various points, unfit it for the easy ingrafting of the ovum in the most favorable time. 3rdly, as we have seen that reimplantation of the uterus...
in rarely met with as a primary cause of sterility whilst it is not an infrequent affection among women who have given birth to a fertilised ovum. As we can see that its tendency to modify the site of the Placenta will be less marked among Primiparae than among multiparous women. The origin of the Placenta, the organic disease of the Uterus on the placental implantation will be less likely to be met with in Primiparae than in subsequent Pregnancies. In referring to the ages of Primiparae affected with Placenta Previa, he gives the average of the 35 cases he has tabulated as 28 1/2 years - 5 of them being 40 years old and upwards. He explains this on 2 hypotheses: "1st, it may be that in a young married woman some womb condition has arisen which has delayed conception for some years until the usual date of primiparity were passed and continued to exert a prejudicial influence upon the progress of Pregnancy Partition of the Peripartum," or "it may be read another way. The longer a woman lives before being married, the more chances she has of becoming the subject of some womb condition which now that she does marry, either prevents conception or mars the normal development of the ovum or lays the foundation for some anomalous labour."

He also points to the greater fatality of Primiparous Placenta Previa. Mortality amongst the mother - in all the cases 1 in 4 1/4 while in the Primiparous cases it rises to 1 in 3 2/3. The mortality amongst the children is likewise higher in 1-parous cases - 69.8° as compared with 59.5° in all cases.
Accidental Hemorrhage. This complication is to be found in multiparae. Goodell's cases of concealed accidental hemorrhage, 106 in all, prove this. Only 8 of these 106 cases were stated to be primiparous while the others are designated multiparous or their ages as given point to their being passed the middle period of childbearing (Prenat. Obst. 1864). The cause of this frequency is to be found in the condition which gives rise to accidental hemorrhage being those likely to be met with in multiparous women of Endometritis, Placental Disease, or the physical weakness of the patient—women who have constitution worn out, with badly nourished tissues, wanting in tone & liable to degeneration.

I find 11 cases of this form of Antepartum Hemorrhage in my series & all were multiparous women.

Rupture of the Uterus. "It was at one time generally supposed & even was stated by many writers that there is less liability to rupture in 1st than in subsequent pregnancies—a more correct observation of such statistics as bear on that subject among which those of Churchill & Trask are best known prove that this is not the case but that there is, if anything a preponderance of primiparous cases. The error has arisen from comparing first with all other labors but if we compare 1st with 2nd, 3rd, & 4th, & po on individually but not collectively the
result will be found as we have said" (Seichman, p. 82) Bandl found that of 546 cases of rupture, only 64 were in Primiparae (quoted by Sukk). Sukk also says that "the preponderance in multiparae is for the most part the result of the laxity of the round ligaments of the uterus which afford accordingly but slight resistance to the recession of the ring of Bandl, of the stretched condition of the abdominal parietes which permit obliquities and reflexion to take place of the preparation of the recti muscles which interfere with the use of the abdominal compress" (Sukk's Induction, p. 868). Playfair says: "It is generally believed that lacerations are more common in multiparae than in Primiparae. Tyler Smith contended that ruptures are relatively as common in 1st as in subsequent labours. Statistics are not sufficiently accurate or extensive to justify a positive conclusion, but it is reasonable to suppose that the pathological changes presently to be mentioned as predisposing to laceration are more likely to be met with in women whose uteri have frequently undergone the alteration attendant on repeated pregnancies. Barnes says 'a large proportion of cases occurring in labour at term were in Primiparae.' Sir James Simpson says 'it is now well known to obstetricians that 2 causes may give rise to its occurrence viz: 1st—overaction, the
Utens in consequence of impediments to the passive
of the child or 1st any such diseased condition of the
portion of the uterine parietes as renders that part less
resistant & hence more easily lacerated than the other
parts of the uterine walls. The 1st of these 2 causes is
in much stronger operation in first than in future labours
but the 2nd cause comes more & more into action with
the frequency of the previous parturitions. The uterine tissues
being more & more liable to disease under the strain of
each successive pregnancy & labour. Hence though lac-
erations from obstruction are more common in first
confinement the same accident as a result of dis-
ee of the uterine structure is far more frequent in
subsequent & later parturitions so much so indeed as to
cancel any argument that might be derived in
favour of its origin from mere obstruction by the
study of it in Primiparous mothers. Again he says
"All obstetrical complications are more frequent &
formidable in Primiparous except Rupture of the
Uterus"

Its causes operating in Primiparous we have deformity of the
Pelvis & this as shown by Radford (Obstet: Trans:) being
often to a slight extent so that its detection is not made
out until too late - the result of this being protracted &
infected uterine contraction possibly Drift administrat-
which combined might lead to rupture. In multiparae
we have nodular plaques of the muscular tissues such as
dystrophic degeneration or fibroids or malignant infiltration
of the uterine walls. It this may be added to the greater prob-
bility of malpresentation of the foetus.

Puerperal Convulsions. This complication is to be
found most frequently in Primiparae labours. Sir
James Simpson collected a number of cases and finds that
76% were in 1st labours. He says: "The more amount of destruction
present in 1st labours is not the sole explanation of the large per-
centage of convulsions occurring in 1st confinement. For
impediments in the maternal passage in future deliveries
are not followed in any such degree by the same consequences. The
explanation that pressure of the enlarged uterus upon the
renal veins leads to albuminuria is hence to Eclampsia
cannot account for its frequency in Primiparae because the
renal veins are not more specially compressed in 1st than
in subsequent labours." I think we have shown however
that Albuminuria is more common in 1st labours,
and it is admitted that there is some intimate connection.
whatever that may be, between Eclampsia and the presence of
albumen in the urine, thus we may infer that 1st gestation
are those which will give us most cases of Puerperal Convulsion.
The greater susceptibility of the nervous system in the prime gravid
woman would induce a predisposition, should any proximite cause arise such as a strong emotional disturbance.

**Puerperal Insanity**

Looking at the 3 divisions of mental disorder which are classed under this head we find that the proportion of Primiparous multiparous cases in not similar in them all.

If we study first the Insanity of Pregnancy we find a larger proportion of Primiparous, for the mental depression which accompanies Pregnancy is likely to be more marked in them. We have also the fact that a woman with a hereditary tendency to insanity will have the stability of her mind tested during the changes incident to Pregnancy. If her mind be unstable, it may give way a mental disturbance result... In such a woman the hereditary predisposition might never develop itself were it not for the upsetting influence of Pregnancy. Clouston (Mental Diseases p. 521). Women are more liable to become insane during the 1st than subsequent pregnancies. Of his 15 cases 7 were Primiparae.

It is also amongst elderly Primiparae that we find a special proclivity.

Of true **Puerperal Insanity** Clouston's statistics give 20 cases of Primiparae out of 60 cases or 1/3 of the whole. Here again we have hereditary predisposition acting also.
with such a tendency, we have the greater excitement, mental
and bodily suffering, the severe labour pain, and the more marked
exhaustion following on Parturition which would occur in a 1-para.
Though Primiparae too we should find the greater number of
unmarried women who are more especially liable to become
the victims of mental derangement—shame & fear of
exposure would here be added to the other predisposing causes.
Of 2281 cases gathered from various asylums 64\% were un-
married (Playfair, 299).
We also find that the elderly Primiparae have a greater
laidness. Those in whom susceptibility to Post-
partum Insanity is most marked being women between 30-
40 years of age, who are confined for the 1st time (Leishman,
Playfair also says: The age of the patient has some in-
fuence a there seems to be a decidedly greater
liability at advanced ages especially when such women
are pregnant for the 1st time.
The other division of this subject "the Insanity of
Lactation" gives us an example of an affection more
common in multiparae than Primiparae. The cause
of this relative frequency in multiparae is not far to
seek as it’s dependence on exhaustion, anaemia &
debility is well understood. The frequent pregnancies
in subsequent nursings, for it occurs in those who have
become repeatedly pregnant at short intervals, produce
brain anaemia leading to depression of mind, want of sleep, a nervous irritability & it is not to be wondered at that women break down under the strain & become melancholic, should any hereditary tendency be present. These cases are more frequent amongst the poor where to the other causes have to be added the struggle with poverty & the want of sufficient nourishment.

Clowton (Mental Diseases p. 351) says "Probably the custom among the poor of nursing each child a long time in order to delay the conception of the next has something to do with the greater prevalence of this form of mental disease amongst them." Playfair says "When occurring in Primiparous Insanity & lactation is generally in women who have suffered from Post Partum Hæmorrhage or other causes of exhaustion or whose constitution was such as should have contraindicated any attempt at lactation."

To sum up what we have been able to gather as to the differences between Primiparous & Multiparous women in their obstetric histories, we may say that the difficulties which the Primiparous woman encounters in her pregnancy & Parturition are almost all of a mechanical nature, whereas the conditions which are due to mental traits. A
Woman lying in for the 1st time has to prove her "inurperal capacity" (Barne), she has greater troubles during her pregnancy, though it is said that as a rule the duration of her pregnancy is shorter than that of her multiparae (Duncan) & her labour is longer & more liable to require instrumental interference, but after the birth of her child, she is not so likely to suffer from post-partum dangers. Her troubles are before rather than after delivery.

The multiparae on the other hand has many of her troubles to encounter after the delivery is over & is much more apt to suffer from abnormal positions of the Foetus & Placenta, & the severe risks which accompany these faulty positions. The laxity of her tissues which often gives her an easy labour does not necessarily give her a safe one. The distension of the parturient passages, the result of a previous delivery, leaves her in a condition allowing of a want of coincidence between the uterus & the contained Foetus. Even when these are normal, the liability to inertia is still marked & the danger of haemorrhage as a result of relaxation is ever present.

Delay & its consequences is the chief danger in the primiparae labour, while haemorrhage is that of the multiparae.
I will finish by giving a full record of the cases from which I have drawn my statistics:

Total cases: 3582. Multiparae 2798. Primiparae 784.

The average age of the Primiparae was 25 years, oldest 48, youngest 15 years. Primiparae under 20 years: age 20. Over 30 years: 118.

Average duration of Labour:

<table>
<thead>
<tr>
<th>Multiparae</th>
<th>Primiparae</th>
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<tbody>
<tr>
<td>7 hours 40 mins</td>
<td>12 hours 15 mins</td>
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Forceps: 136 times. 53 Multiparae (1 in 52) 83 Primiparae (1 in 9).

Of the 83 Primiparae, 26 were 30 years old or upwards.

Trichiasis: 47 times in Multiparae, 12 in Primiparae. Total: 59.

Frication House: 11 -- -- -- -- 0 -- -- -- -- 11

Pac. Prexa: 9 -- -- -- 1 -- -- -- 10

Pac. Posta: 9 -- -- -- 4 -- -- -- 13

P. P. F. K. Herbage: 24 -- -- -- 6 -- -- -- 30

Abnormal Presentations: 78 in Multiparae, 26 in Primiparae.

Breech: 63 in Multiparae, 25 in Primiparae.

Face: 10 " 0 "

Shoulder: 5 " 1 "

Abortions: 889. Women had 1281 Abortions.

Three 47 were Primiparae with 47 Abortions.

William Henry Miller