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The Obstetric Invalid

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The word invalid is derived from the Latin "Invalidus" meaning not strong, infirm, inadequate or weak. When it is applied to the obstetric patient the implication is that her *uterus* is not strong, is infirm, is inadequate or is weak. And the commonest reason for this state is the presence of one or more Caesarean Section scars which has "crippled" her uterus, that is, deprived it of its strength, activity or capability for service. Because her uterus is crippled she very often has to have another Caesarean Section. She becomes a very special case requiring a specialist's care and the exercise of much judgement on his part in regard to the timing of the Repeat Section and in other ways. The other conditions which result in crippling of the uterus are previous myomectomy scars and the incompetent internal os, but the incidence of these two disabilities in one's obstetric practice is comparatively very small. As the time limit for my paper is thirty minutes, I shall devote the time allocated to a discussion of problems in respect to previous Caesarean Section scars.

We have to accept one principle in obstetrics namely that in order to serve the best interests of mothers and infants a large number of unnecessary Caesarean Sections must be performed. In fact, the great majority of Caesarean Sections done today are unnecessary in respect to the individual case. A good example may be found in Repeat Caesarean Sections in which approximately 98% are unnecessary because the incidence of rupture of the Section scar is about 2%. These Repeat Sections find their justification in the law of probabilities which indicates that approximately 2 women in a hundred will be spared the catastrophe of uterine rupture if the operation is performed.

The only absolutely necessary Caesarean Sections are the rare ones done for advanced pelvic contraction, tumours blocking the pelvic cavity and a few other rare conditions. I would dread to relive the first 10 years of my 35 years of obstetrics when Caesarean Sections were done only on absolute indications and when the now out-moded methods of management were carried out often to the detriment of the mother and child. Looking back over these years I can recall one or two instances in which I regretted having carried out a Caesarean Section. On the other hand I remember a much larger group of cases (especially in the early years of my career) in which I very much regretted that a Section had not been done and still other instances in which Section was performed too late.

Over the past two decades, especially in the last decade, the indications for Caesarean Section have widened and it follows that there will be an increasing number of patients who present with the problem of pregnancy and delivery subsequent to Caesarean Section.

The incidence of rupture of a Caesarean Section scar, whether low or Classical is much lower than two decades ago. This, no doubt, is an important reason for the trend away from the dictum "Once a Caesarean, always a Caesarean". Nevertheless, the danger of rupture of the scar is always there and the behaviour of the unseen scar is unpredictable.

One of the most troublesome decisions to make is whether to perform a repeat Caesarean Section in a patient who has had a previous abdominal delivery. There are several difficulties:

(1) The Criteria for making this decision are few and of dubious reliability.

(2) The arguments for and against a Repeat Caesarean Section just about counterbalance each other.

(3) If decision has been made on a vaginal delivery and the uterus ruptures, there is no error in obstetrics which carries a deeper remorse.

TABLE I

Criteria in Favour of Repeat Caesarean Section

All of Dubious Reliability

1. History of multiple sections.
2. History of a Previous Classical Caesarean Section.
3. Where there is the slightest degree pelvic contraction.
4. Twin pregnancy going more than 32 weeks.
5. Large abdominal mass (*e.g.*) large baby or hydramnios.
6. Faulty presentations (*e.g.*) breech, persistent occipito-posterior.
7. Febrile puerperium following previous Section.
8. Pain and tenderness over Caesarean scar (usually due to adhesions).
9. Credentials of the previous surgeon unknown or doubtful.

TABLE II

Criteria in Favour of Vaginal Delivery

All of Dubious Reliability

1. History of uncomplicated previous vaginal delivery, normal size, living infant.
2. Initial indication non-recurrent, as in placenta praevia.
3. An apparently small infant with a presenting part well in the pelvis.
4. History of previous Lower Segment Caesarean Section.
5. Afebrile puerperium following previous Section.
6. Soft, partly effaced and partly dilated cervix at onset of labour, presaging a short, easy multiparous type labour with minimal tension imposed on the scar.

TABLE III

Analysis of 1320 Cases of Previous Caesarean Section (personal)— 1946 to 1963

(*Approximately 15% of these cases had had their C.S. done by someone else*)

	Total	*Percent*
Vaginal Delivery ..	514	38.9
Repeat Caesarean Section ..	806	61.1
Analysis of 514 Cases Vaginal Delivery		
History of P.V.D. ..	410	79.7
No P.V.D.	104	20.3
Analysis of 806 Repeat Caesarean Sections		
History of P.V.D. ..	294	36.4
No P.V.D.	512	63.6

(*P.V.D.=Previous Vaginal Delivery*)

Note that nearly 8 in 10 cases delivered vaginally gave a history of P.V.D. and that less than 4 in 10 cases delivered by Repeat Caesarean Section gave a history of P.V.D.

It becomes evident from perusal of the tabulated criteria that the decision as to whether to do or not to do a Repeat Caesarean Section is not a simple one and that one cannot generalise. To illustrate the problems that might have to be met here are some examples:

(1) A patient, entirely normal, except for one or two section scars, who goes to term without complication. The problem here is the possibility of uterine rupture and how to meet it and the issue is fairly straightforward. Any one or more of the criteria tabulated above may be applied in order to justify the decision on either a repeat Caesarean Section or a vaginal delivery.

(2) Another patient with one or more section scars who, for some unknown reason, starts premature labour with a small foetus. It is difficult to decide what to do in some of these cases as one does not relish putting another uterine scar in a woman for a 3 or 4 pound baby, especially if the os is 3

fingers dilated on admission and labour is good. On the other hand one is not sure whether the smaller infant reduces the chances of uterine rupture or not.

(3) Now take the case of another patient with one or more section scars who has a complication (e.g.) diabetes, hypertension or other intercurrent disease. In this kind of case the timing of the Repeat Caesarean Section is the big problem. If the foetus is large or there is hydramnios or twins say 5 or 6 weeks from term in a diabetic, the increased chances of uterine rupture on account of the large uterine mass might force one's hands to operate and so affect the timing of the operation. A similar situation might arise in the case of pain over the uterine scar occurring in the last trimester of pregnancy and the decision made to operate prematurely on the score of threatened uterine rupture whereas, in fact, the pain was due to old adhesions.

These examples show that there is no rule-of-thumb management for all cases. The only solution is sound obstetric reasoning applied to each individual case.

The Timining of the Repeat Caesarean Section

When delivery by the vaginal route has been excluded the problem that will have to be confronted is the timing of the Repeat Caesarean Section. Pregnant women with one or two previous Caesarean Section scars are just as likely as any other pregnant women to have placenta praevia, accidental haemorrhage, severe pre-eclampsia and diabetes. These complications might develop to severe proportions at say the 32nd week and one's hand is forced to perform Repeat Caesarean Section resulting in the birth of a premature infant. This premature birth is, of course, unavoidable and is not the point at issue.

However, in those cases where possible rupture of the scar is feared, the election of the date for the repeat Caesarean Section before the onset of labour at term (*Elective.* Repeat Caesarean Section) requires very careful evaluation. Every conceivable method of determining foetal maturity must be employed because there is no greater disgrace than to perform an elective Caesarean Section and deliver a premature baby who dies.

TABLE IV

Incidence of Prematurity in 806 Cases Repeat Caesarean Section

		Total	*Pre-mature*	*Per-cent*
Timing Forced By Complications ..		.. 162	40	24.7
1. Toxaemia	79			
2. Accidental Haemorrhage	10			
3. Placenta Praevia	2			
4. Premature Rupture of Membranes	45			
5. Diabetes ..	14			
6. Miscellaneous	12			
Pure Elective Repeat C.S. ..		644	23	3.6
Total ..		806	63	7.8

Fate of the 23 prematures in 644 cases=1 died or 0.16%. Elective Caesarean Section per se does not carry an especial risk for the baby provided there is no faulty anaesthetic error.

TABLE V

Incidence of Prematurity in 514 Cases Vaginal Delivery

Prematurity .. 165 Percentage .. 32.1

Can be explained on the basis of selection:

1. Small size of infants at time of onset of labour.
2. 22 infants had died before labour started.

TABLE VI

Criteria for Assessing Maturity of the Foetus

1. Naegele's Rule—Patient must be sure in her own mind of the date of her Last Menstrual Period.

2. Abdominal palpation 10 days before the E.D.D. by Naegele's Rule by experienced examiner. Estimated weight approximately 7 pounds. He allows himself a possible error of 1 pound.
3. Foetal heart audibility at 20 weeks. This must "jibe" or "square" with the E.D.D. by Naegele's Rule.

Management of the Vaginal Delivery

Decision, as a result of selective study, to attempt vaginal delivery for the patient who has had previous Caesarean Section is fraught with trepidation in respect to the integrity of the uterine scar because there is no absolutely reliable criterion either from the history, symptoms or any other clinical forethought that will enable one to venture that an unseen scar will stand up to the rigours of labour and vaginal delivery. It is well to remember that successful vaginal delivery following Caesarean Section is no insurance against subsequent rupture and that Caesarean Section scars are the most common cause of uterine rupture in present day obstetrics.

TABLE VII

Management of the Vaginal Delivery

1. Insurance of competent consultation in well run institution.
2. Patient must book early in the pregnancy.
3. Keep careful watch on foetal heart, maternal condition, character of the contractions and look out for tenderness of the uterine scar and or vaginal bleeding.
4. Have 2 pints blood ready for transfusion, if necessary.
5. Total labour should not usually exceed 8 hours.
6. Blot out second stage by application of low forceps.
7. Avoid exploration of uterus as a routine after third stage because sooner or later someone will poke his finger through one of the scars. Instead keep careful watch of the patient for signs of internal haemorrhage or haematuria.
8. On no account should *any* intrauterine manipulations be carried out during labour.

Rupture of Caesarean Section Scar

Ruptures or deficiencies of Caesarean Section scars are common despite the advances of modern surgical techniques. The dramatic type of explosive rupture is seldom seen but deficiencies in the lower segment wound are not uncommon. Following lower segment operation dehiscence or disruption of the scar rarely develops until after the onset of labour because it is only then that the lower segment becomes thinned out and stretched with resultant pulling apart of the edges of the scar. It is, indeed, remarkable that dehisced lower segment scar can withstand the strain of uterine contractions without rupture of the peritoneum or of the foetal membranes and, in fact, without presenting any outward signs of their existence.

TABLE VIII

Rupture of Caesarean Section Scar

(a) **514 Cases Vaginal Delivery**

	Total	*Percent*
Explosive Rupture ..	2	0.39

Case 1: History of previous Caesarean Section not disclosed by patient; abdominal scar mistaken for a stria gravidarum, rupture after 12 hours driving labour; death of mother and foetus.

Case 2: 4 vaginal deliveries after Caesarean Section for inertia first labour; shoulder dystocia, large baby 9½ pounds; mother and child alive.

(b) **806 Cases Repeat Caesarean Section**

	Total	*Percent*
Dehiscence of scar (All L.S.C.S.)	6	0.74
After onset of labour ..	3	0.37
Before onset of labour ..	3	0.37

TABLE IX

Points to be Observed at Operation to Ensure a Resultant Reasonably Reliable Caesarean Section Scar

1. Preferably carry out the operation before labour is too advanced. The cut edges will be easier to identify and appose.

2. Make clean cut incision into lower segment. No tearing of muscle. Avoid applying Green-Armytages' forceps to muscle edges as they cause bruising.

3. Do not include endometrium in the sutures as it tends to invade scar and leave a V-shaped depression along the interior aspect of the scar —an obvious source of weakness. This inclusion is less likely to happen in L.S.C.S. because endometrium here is less exuberant.

4. Appose the incision by two tiers interrupted catgut No. 'O' sutures, deep tier includes muscle, superficial tier includes superficial layer muscle *and Visceral Layer Pelvic fascia.*

5. Ensure asepsis at operation and prevent post-operation infection of scar by modern methods available (Blood Transfusions, Antibiotics, Etc.)

6. Do not try to be an obstetric gladiator or slob. There is no virtue in boasting that you can do a Caesarean Section in 15 minutes!