

Obstetric Shock

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The term "Obstetric Shock" is, in fact, an out-dated term. This tends to limit the description of the condition of collapse or prostration as occurring only in relation to child-birth. Recent concepts of shock, however, must make us alter the terminology to that of "Shock in Obstetrics"—and this will now imply that the manifestations of shock are generally identical with those occurring in both medical and surgical conditions—although the clinical setting is different. Profound physiological, biochemical and pathological changes occur in shock conditions and the Obstetrician has thus to become not only an accoucher but also a physician and a surgeon to his patient as well. The fact that he deals with two lives at a single time makes his task the more important, and the more difficult.

It is proposed to discuss this important problem in three phases as follows:—

- (a) The Sequelae of Shock and Haemorrhage in Obstetrics.
- (b) The Group causes of Collapse in Obstetrics.
- (c) The important aspects of prevention and management of Collapse in Obstetrics.

A. The Sequelae of Shock and Haemorrhage in Obstetrics.

1. Death.

Nothing is more tragic in Obstetrics than the loss of a Mother in Childbirth. The loss of either a mother or child invariably makes torment in the mind of any well-meaning obstetrician. In Singapore, the trend of maternal deaths has been kept to a new low record of 0.39 per 1,000 in 1962. Analysis of deaths at the Kandang Kerbau Hospital gives a figure of 0.61 per 1,000 for the same year and there had been a total of 63 deaths in the Hospital in 1960 to 1962—being deaths from all causes.

Death as attributed to Shock and Haemorrhage ranked first place amongst the clinical factors causing maternal deaths at the K.K. Hospital. 25 lives were lost in the 3 year period 1960-62 accounting for 38.4 per cent of the maternal deaths.

2. Renal Shut-down and Anuria.

It is definitely accepted that shock and haemorrhage brings about this physiological upset. With the advances made on the artificial kidney, many cases had been saved and when the condition becomes irreversible, death again must surely result. At the Kandang Kerbau Hospital in the 3 year period 1960-62—there had been 2 fatal causes ascribed to renal auria, following "toxic" abruptio placentae.

3. Puerperal Morbidity and Puerperal Sepsis.

There is no doubt that upsets in the physiology and biochemistry of the body following shock and haemorrhage will lower general body resistance and thereby allowing an increased incidence of puerperal sepsis. Lucky enough, modern antibiotics are at hand to help control this problem but nevertheless in 1960-62 at the K.K. Hospital there had been 4 fatal cases ascribed to puerperal sepsis. If death did not occur, there is the prolonged period of hospitalisation that will be required and the very much longer period of complete restoration to proper physiological and biochemical health.

4. Failure of Lactation.

It is feasible to conclude that debilitated patients will suffer a failure of lactation. This problem does not seem to be extremely important at this time when even healthy mothers are fighting shy of breast-feeding. Failure of lactation would appear to be synergistic to uterine sub-involution.

No figures for this disability are available from the K.K. Hospital.

5. Uterine Sub-Involution.

This no doubt will follow debilitated patients. It occurs pari-passu with puerperal sepsis and with lactation failure and can become the forerunner of many gynaecological ills—the most important of which will be menstrual disturbances. Mothers can thus turn out to be gynaecological invalids.

6. Chronic Anaemia and General Ill-Health.

General debility, ill-health and chronic anaemia exist side by side and one of the important repercussions obstetricians think about—and also paediatricians—will be the relative impairment in the maternal efficiency of bringing-up a new-born.

7. Sheehan's Syndrome.

This clinical syndrome is only too well known, and will not be discussed at length at this time. Isolated cases have been reported and diagnosed in this Hospital from time to time but this only involves the full-blown clinical cases and there possibly will be more cases around who have not come for medical attention with a partial Sheehan's Syndrome.

B. The Group Causes of Collapse in Obstetrics.

Shock and haemorrhage appear to be intimately inter-locked in synergism in cases of collapse but there are numerous other important mechanisms besides haemorrhage which can bring about a picture of collapse. Because these other mechanisms are difficult to diagnose, they have to be constantly borne in mind and merely to think about them is to make diagnosis relatively more easy.

1. Haemorrhage Group.

This is by far the most common and most important group in shock in Obstetrics. Haemorrhage may occur at any time in pregnancy and labour and may be overt or occult. The unseen and uncounted blood loss are the more dangerous and more treacherous of the group. As stated before, a total of 25 mothers (38.4%) had died from this cause in this Hospital in the years 1960-1962. Haemorrhage may occur in conditions as follows:—

1. Ante-Partum Haemorrhage:
Placenta Praevia .. 4 cases fatal
Abruptio-Placentae ... 5 " "
APH—other causes

2. Post-Partum Haemorrhage:
With retained Placentae 9 cases fatal
No retained Placentae .. 6 " "
(5 with retained placenta were dead on arrival).

3. Ruptured Uterus—with or without Visible haemorrhage .. 5 fatal cases

4. Retro-peritoneal and broad-ligament haematoma.

These can occur either in relation to a ruptured uterus or may occur as a result of ruptured varices within the broad ligament.

2. Gynaeco-Obstetrical Accidents.

Fatal cases amongst this group-causes have not been commonly encountered but they do occur from time to time and must be constantly remembered. This group includes:—

1. Uterine Inversion of all degrees
Fatal case in 1960-62 .. 1

2. Retained products without haemorrhage revealed.

3. Retained blood clots.

4. Torsioned Ovarian Cysts and Torsioned Subserous Fibroids.

5. Embolic phenomena—either Air, Blood, Fat or Amniotic Fluid
Pulmonary blood embolism .. 1 fatal case
1960-62.

6. CREDE Expression for delivery of the placenta.

This is an inhuman procedure and must be constantly condemned. A well-conducted manual removal of the placenta under proper medication and anaesthesia is a recommended alternative.

7. Intra-Uterine Manipulations without proper anaesthesia.

The process of inserting anything—be it hand or instruments into the cavity of the uterus proper is almost a shocking procedure especially if no proper anaesthesia and no proper relaxation is present. Such practices should be considered antiquated obstetrics and should not be carried out.

3. Coincidental Accidents.

These include those medical and anaesthetic accidents which can occur at any time to any person and not necessarily involving a mother in child-birth. By far, these conditions are difficult to diagnose and the exact mechanism of shock in most of them cannot be properly elucidated at times of emergencies. Nevertheless they are very important especially in conditions of collapse where haemorrhage is not a factor at all. Such accidents include:—

1. Coronary insufficiency and coronary infarctions. Only an electro-cardiogram can help in making a diagnosis.
2. Adreno-Cortical (Total or Partial insufficiency). Of all hormonal imbalances that can cause collapse in a patient probably adrenal insufficiency ranks foremost. It is important to think of this mechanism for in these cases, the response to adrenal cortico steroids is very dramatic; and a general consensus of opinion would seem to indicate that there is every harm in not giving steroids to a collapsed patient and probably little or no harm in giving it.
3. **Anaesthetic Accidents:** Collapse can occur in patients being administered an anaesthetic—either a regional or general. There had been 3 recorded cases of deaths due to the Mendelsohn's Syndrome complex at the Kandang Kerbau Hospital in the years 1960-62 and at least one case died from collapse following an epidural block.

The phenomenon of hypoxia—meaning a reduced oxygen supply to tissues is an established factor in the causation of collapse in a patient. Proper oxygenation

and proper maintenance of the airway in an unconscious patient should constantly be enjoined. Laryngoscopy, bronchoscopy and tracheostomy are often life-saving measures for such conditions.

4. Idiopathic Shock.

This grouping is unfortunate and it must be a very discomfoting thought to know that there are still present inexplicable circumstances which can account for collapse in patient. Idiopathic shock may be—

Obstetric Shock per se, or

Anaphylactic Shock,

as can sometimes occur in cases with severe emotional states and states of exhaustion or severe pain. Systemic injections of drugs like Penicillin can sometimes bring about collapse and cases of drug sensitivity reactions have been reported from time to time.

By and large, this group of cases have a vaso-vagal phenomenon associated.

C. The Important Aspects of Prevention and Management of Shock in Obstetrics

The general principles underlying the management of shock are already clearly laid down by the first speaker—Professor Tinckler.

Amongst Obstetric patients, there are many avoidable factors which need preventive managements; and Prevention is always certainly far better than attempts to cure. The idea is to ensure that the patient is made safe for Obstetrics. Only a complete, continuous, co-ordinated and non-haphazard antenatal care can ensure a patient in the best possible state before labour ensues. In 1960-62 again, 80 per cent of the maternal deaths that occurred in the Kandang Kerbau Hospital had occurred amongst unbooked patients. Nine out of ten cases that died with shock and haemorrhage in association with child-birth had not been booked at any clinic or the hospital for confinement. Under this same period, one point need stressing—and this entails the education of the mind of a pregnant patient for we have learnt that uncertainties, mental anxieties and severe emotional stress can make a patient an easy victim for prolonged labour and for collapse to occur.

Whilst the patient can be made safe for Obstetrics—it is also necessary for Obstetricians to ensure that Obstetrics is made safe for the patient. Some important practical pointers in this respect are as follows:—

1. Never be over-confident.

It is common experience that the best obstetrician will have a bad field day when he is over-confident and is in a hurry. The elderly primigravida and the grande multipara, whether young or elderly, must command all respect.

2. Ensure—

Adequate Morale

Adequate Hydration

Adequate Analgesia and Sedation.

3. Be wary of a prolonged labour.

In Professor Sheehan's series compiled at the Glasgow Royal Maternity and Women's Hospital, 46 cases had died out of 147 deaths because of prolonged labour and a further 20 cases died because of ruptured Uterus in association with prolonged labour, making a total of

40 per cent of all deaths in that institution (Sheehan 1948).

4. Be aware of the danger of transferring and transporting an obstetric patient especially one with a retained placenta. An obstetric patient should always be considered a "treacherous" patient and it is because of this point that Flying Squad Resuscitation Services are available in most places of the world. But alas, this remains still a lacking service in Singapore where society claims itself to be affluent at this time.

5. Ensure prompt and determined resuscitative measures.

Whilst this is decidedly true and nothing can be agonising than to see a life slipping through an indeterminate pair of hands, it is also equally important to remember that one must NOT over-treat. This can be equally if not more dangerous.

6. Finally—Last but not least, it must be remembered at all times that the hallmark of safe and good obstetrics is Judicious ART and not FORCE.