

## Management of Abortions

by  
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In this short talk on management of abortions it is possible to touch only on the important aspects of the subject. Abortion, the commonest complication of pregnancy constitutes 15-20% of all pregnancies of which 70-80% occur in the 1st trimester and the rest in the 2nd trimester. Seldom can a gross and obvious cause be found and it is in this type of cases that we are most concerned.

### Threatened Abortion

Threatened abortion in my opinion has been one of the most unpredictable and sometimes most disappointing condition to treat in obstetrics. Few if any will disagree with Flew who says that by the law of sheer cursedness those who desperately want a baby threaten to miscarry, whereas the unwanted child appears to have an abnormal tenacity.

Rest in bed with sedation is the standard treatment. Parenteral morphia or omnopon is usually started followed by phenobarbitone by mouth. The diet should be normal and no aperient or enema must be given. Anything passed per vaginam must be saved for inspection.

Most of us must have had the experience of hearing a patient saying that she has passed a lump per vaginam in the toilet or worse if she does not volunteer this information. It can be extremely difficult to differentiate a threatened from an incomplete or complete abortion. Hence it is wise to do a biological pregnancy test at the end of a week or less of vaginal bleeding in a threatened abortion to ensure that all is well.

It is debatable whether an internal examination should be made in threatened abortion. An examination can exclude cervical polyp, cancer, ectopic pregnancy or inevitable abortion. It is hardly fair to blame an examiner, after a gentle examination for having converted a threatened abortion into an

inevitable abortion, which may be entirely coincidental.

A retroverted uterus-gravid when found need not be replaced manually for even with retention of urine it usually corrects itself after catheterisation and drainage within 24-48 hours. Whether retention is present or not the patient is encouraged to lie on her abdomen as much as possible.

After the initial threat to abort has been more or less controlled it has almost been customary to administer progesterone to the patient. Twenty years ago a threatened abortion was treated by weekly administration of progesterone e.g. 3x10 mg. Nowadays, of course much more potent and better preparations are used.

Rauscher at the III World Congress; International Federation of Gynaecology and Obstetrics, Vienna, gave 500 mg. Proluton Depot every 5 days supplemented if necessary by 100 mg. progesterone daily over a short period. Treatment is continued until the 16th week at least, in some cases, however, continuing until the 28th or even 32nd week. The progestogens, 17 hydroxy-progesterone capronate (Proluton), and 6 dehydro-retroprogesterone (Duphaston) are devoid of virilisation effect.

All threatened abortions may be treated with progesterone but for the considerable expense, time and disappointment if they are not due to progesterone deficiency. The methods of estimating urinary pregnanediol, the excretion product of progesterone have proved treacherous and unreliable in the past and it has not hitherto been possible to reach any useful conclusions. Other methods of estimating progesterone deficiency are urinary gonadotrophin assays, estimation of blood progesterone, cervical mucus arborisation and vaginal cytological smears, of which the last two methods are simpler, much emphasised and more practical.

In vaginal cytology as described by Fayad and Youssef, 2 smears were taken daily from every patient as long as the bleeding continued. One smear was obtained by suction from the posterior vaginal fornix, the second smear was collected by a wooden tongue depressor from the blood or discharge coming from the external cervical os. The smears were fixed in alcohol-ether and stained according to the Papanicolaou technique. The principle underlying this method is that in the smears of normal pregnancy almost all the cells should be basophilic transitional-layer cells: when the number of cornified Karyopyknotic cells exceeds a certain percentage of say 10% either the patient will abort or the smear will revert to normal with or without therapy. A high Karyopyknotic index—the percentage of cells with pyknotic nuclei in relation to the number of vaginal cells—indicates a poor progesterone effect. An index higher than 10% should be considered abnormal and if no syncytial cells are detected progesterone therapy should be given. The detection of chorionic syncytial cells in the smears of patients with threatened abortion indicates irreparable trophoblastic defect and should be considered as a microscopic criterion of the inevitability of the abortion. (*Slides demonstration*)

The cervical mucus arborisation method as described by Macdonald consists of exposing the cervix with a speculum and the ectocervix gently wiped of vaginal debris and old mucus. A wisp of cotton wool on the end of an orange stick was introduced into the lower end of the cervical canal and rotated in order to pick up a little fresh mucus **which was then spread in a thick smear on a clean dry glass slide and left in the air to dry at room temperature.** The dried smear were examined und temperature. The dried smear were examined under low power microscope for crystallisation.

Crystallisation is absent in normal pregnancy. The presence of either ferning or non-ferning crystals indicates endocrine imbalance and is associated with 50% risks of abortion. (*Slide demonstration*)

Patients with a previous poor history such as prolonged infertility or recurrent abortions and recurrent crystallising smears should be selected for progesterone therapy.

However, Shearman and Garrett showed by a double-blind study of effect of 17 Hydroxy progesterone caproate on abortion rate, that the fact that

abortion is often, although not invariably preceded by evidence of diminished progesterone metabolism by evidence of diminished progesterone metabolism, does not necessarily mean that there is a causal relationship for both may be manifestation of an unknown basic fault.

Also, considering what Mall wrote in 1903 that about  $\frac{3}{4}$  of the abortions of the 1st month and about  $\frac{1}{2}$  of the 2nd month give pathological specimens it is understandable that not all abortions can be saved no matter what the treatment.

It is an intriguing fact that almost all of the published methods claiming success in the management of abortion show a salvage rate in the vicinity of 80% (Javert, 1957) whatever the method of treatment—sedative, dietary, physical, hormonal, surgical—that it is easy to believe that the common and effective agent has been psychotherapy. In fact Tupper and Weil in their paper to evaluate critically the results of simple psychotherapy in abortions concluded that the sympathy and enthusiasm of the doctor, husband and relatives are potent factors in determining the efficiency of any drug or regime.

### Habitual Abortion

The above mentioned management of spontaneous abortion applies to habitual abortion. No major advance in the treatment was made until about a decade or so ago when incompetence of the sphincter mechanism of the uterus was recognised as a well established cause of habitual abortion in the middle trimester. Since Lash and Lash (1950) first treated the incompetent cervix in the non-pregnant state followed by Shirodkar in 1955 using fascia lata to surround the cervix during pregnancy many operations have been described using dacron mesh (Barter et al. 1958), nylon filament (Lewis & Reed-1959), stainless steel wire (Johnstone 1959), Dacron Ribbon (Ritter & Ritter-1961), and braided Nylon—Mersilene—(MacDonald-1963). The last is one of the simplest method as the mersilene is inserted in a purse-string fashion around the cervix as high as possible without incising the epithelium. The patient is kept in hospital for at least a week and given sedatives, antibiotics. Duvadilan, a specific uterine spasmolytic may be given with an initial 20 mg. intravenously in a 5% glucose drip. Administration is continued by intramuscular injection every 24 hours, and subsequently in successful cases by mouth for at least 2 months. After discharge the patient attends

at weekly intervals and bimanual and speculum examinations are conducted on each occasion. If the suture cuts through the patient has to be re-admitted for re-suture. When the ligation has been successful the stitch is divided at 38th weeks of pregnancy, to allow vaginal delivery. Caesarian Section is not usually necessary unless for obstetrical reasons.

The critical value of the method depends on the accurate diagnosis of the condition and the timing of the operation. Danforth-1947—believes that it is the fibrous connective tissue of the cervix that endows it with the function of retaining the gestation sac and that the expanding isthmal segment does not become completely filled until the 14th to 16th weeks. It is at this stage that the competence of the cervix is of prime importance in retaining the products of conception and hence the optimum time of operation.

### **Incomplete and Inevitable Abortions**

In these cases it is perhaps more judicious for the doctor to go to the patient rather than vice versa, for the abdominal pain and especially haemorrhage can be quite considerable. Although it is best to operate in a well equipped theatre lives will be saved in rural areas when bleeding is severe by keeping the patient at home and taking the necessary skilled assistance to her e.g. a Flying Squad Service should be available for resuscitation before transport to hospital. Parenteral morphia and ergometrine are excellent treatment. Internal pelvic examination with full aseptic precautions may enable foetal products trapped in the cervical canal to be removed dramatically reducing further loss of blood.

The aim is to secure an empty uterus and ideally this should be done as soon as possible. Usually a general anaesthetic by intravenous pentothal is given but adequate sedation with parenteral pethidine and phenothiazine is possible for evacuation of the uterus. The spoon-type of curette is ideal for curettage but the use of the flushing curette is debatable. The objection to its use is that it can force liquid up the Fallopian tubes or worse it can force fluid direct into the peritoneal cavity through an inadvertently perforated uterine rent.

Most of us must have come across a case when we have to decide whether the abortion is complete or not. In cases of doubt or when bleeding persists surgical evacuation should be done. Bleeding from

a pregnancy before 28 weeks due to placenta previa though rare may require abdominal hysterotomy.

### **Septic Abortions**

All cases of septic abortions are best admitted to hospital for adequate treatment. Excessive haemorrhage is regarded as the only reason for immediate operative intervention supported by blood transfusion if necessary in the presence of pyrexia. If haemorrhage is not severe, both aerobic and anaerobic cultures should be made from a high vaginal swab and from the blood stream. Empirical antibiotic treatment with penicillin and streptomycin should be begun and modified if necessary in the light of the bacteriological report.

Surgical evacuation of the uterus can safely be done after adequate antibiotic treatment for 24-36 hours. When subsequent examination shows the development of a spreading infection beyond the uterus surgical evacuation should be deferred, except for removal of loose and easily accessible products of conception in the cervical canal.

Clostridium Welchii infection, fortunately rare, is treated with full dosage of penicillin and anti-gas-gangrene serum. Modern therapy has largely eliminated infection as a direct cause of death and renal failure has now become the most dreaded complication of post-abortion sepsis.

### **Missed Abortions**

Sometimes it may be out misfortune to be treating a case of missed abortion for threatened abortion. For a brown vaginal discharge may be the tail end of a threatened abortion or the beginning of a missed abortion. It is imperative that when a case bleeds for more than a week or less in spite of treatment the case should be re-assessed including a biological pregnancy test to avoid embarrassment and loss of prestige.

It is indeed distressing to have to tell a woman or to be told that her baby is dead inside. It certainly does not appeal to her aesthetic sense to be moving around with a dead ovum inside with the constant dread of the abortion completing itself awkwardly in time and place. Moreover there is the complication of hypofibrinogenaemia if the dead ovum is retained more than 4 weeks after death. Thus most doctors and patients would favour some form of active treatment. Surgical evacuation would be possible if the uterine size is

ess than that of a normal pregnancy of 10 weeks duration. Medical induction by oestrogen, quinine or pituitrin have not been popular.

Bengtsson, however, based on the extensive studies of Csapo and his group on the hormonal control of myometrial activity believes no surgical intervention is necessary in missed abortion. He believes missed abortion occurs only when the foetus dies while the placental function is maintained. In these cases the oestrogen effect on the myometrium is withdrawn before the progestrone effect. He divides missed abortion into 2 stages. Stage 1—after foetal death the myometrium remains progesterone dominated and is unable to produce effective contractions. The treatment then is to destroy the placental function e.g. by an intra-uterine hypertonic solution. Stage 2—when the hormonal production of the placenta is destroyed the myometrium is unable to work effectively, oestrogen should be given.

Encouraging results are reported from giving intravenous infusion of oxytocin in high concentration as advised by Loudon. The concentration suggested is initially 10 units of oxytocin per pint of dextrose solution at the rate of 25 drops per minute and gradually increasing the concentration to 100 units per pint. There is the theoretical risks of coronary ischaemia hypertension and anti-diuretic effect in the use of pitocin.

Liggin reported similar success with Syntocinon and reduced the risk of water intoxication by limiting the volume of vehicle used. He commenced with 50 units per pint at no more than 30 drops per minute and to make a single increment to 100 units per pint at the end of 2 hours if contractions have not started. Syntocinon administration is discontinued at the end of 8 hours and diuresis allowed to occur.

### Conclusion

The aims in the management of abortions are to save as many pregnancies as possible reduce mortality and morbidity and shorten the stay in hospital.

Considering the fact that 15—20% of pregnancies end in abortions and 15% if not more of gynaecological beds in the hospital are occupied by abortion cases, thus making the arrangement of clinic admissions and operation sessions difficult, a subsidiary abortion unit say of 40 beds with a minor operation theatre deserves to be formed as

is done in other gynaecological centres where hospital treatment can be prompt, efficient and economical in the long run. When delays are inevitable and this often must be between the emergency treatment given in the patient's home by the General Practitioner and the admission to hospital many miles away, a Flying Squad Service can be life saving in the management of abortions. Certainly from the point of view of relative importance an abortion case deserves a hospital bed much more than say a 'cold' case of uterine prolapse.

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