

ANTENATAL AND ADMISSION AMNIOSCOPY

by

UDAY THANAWALA

SUHAS NAGWEKAR

ADI DASTUR

and

DINA PATEL

SUMMARY

One hundred high-risk patients were subjected to amnioscopy, antenatally and again when they came in labour. Another group of 100 cases were subjected to routine intrapartum amnioscopy. The main indications for the antenatal cases were as follows: post-datism 38%, pre-eclamptic toxæmia 24%, bad obstetric history 8% etc.

Introduction

Amnioscopy is a procedure enabling the inspection of forewaters through intact membranes, and thus identifying a foetus at risk during late pregnancy. Clear or milky liquor indicates fetal well-being, while meconium or absence of liquor are 'positive' amnioscopic findings suggesting the foetus is at risk.

Aims of the study

To monitor a high risk pregnancy with amnioscopy and correlate the findings with the foetal outcome, thereby assessing the efficacy and usefulness of amnioscopy.

Material and Methods

One hundred high-risk antenatal patients were subjected to amnioscopy and when they came in labour "Admission Amnioscopy" was performed on them.

From: Nowrosjee Wadia Maternity Hospital, Parel, Bombay 400 012.

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One hundred routine admission amnioscopies were also performed. Original Saling model of the Wolf Amnioscope sizes 12, 16 and 20 were used.

Technique

The technique of amnioscopy calls for the adherence to strict surgical aseptic precautions. The patient is placed in the dorsal lithotomy position, parts are painted and draped. A gentle vaginal examination is made to confirm the cervical dilatation, effacement and the presence of intact forewaters. Depending on the width of the cervical canal, the choice of the size 12 mm—16 mm or 20 mm amnioscope is made.

Introduction of the amnioscope is done by the blind procedure. This is easily acquired with practice. The desired amnioscope along with the obturator is held adjacent to the palmer surface of the examining vaginal fingers and thus introduced into the vaginal canal. One finger

is now introduced into the cervical canal and the amnioscope placed parallel to the finger. The finger is gradually removed as the amnioscope is introduced into the cervical canal. The correct insertion of the instrument is checked by feeling a complete rim of cervix around the barrel of the amnioscope. Once though the internal cervical os, the instrument is advanced a further centimeter, the obturator is removed. The prismatic light deflector is now attached to the amnioscope and the membranes are brought into view. If required mucus or blood can be wiped away by small swabs mounted in special carriers.

The colour of the liquor is best judged by looking through it onto a surface that reflect light, like foetal skin or large flecks of vernix. In order to make accurate observations, the operator must get his eye as close to the amnioscope as possible.

Indications

The indications of amnioscopy on the 100 antenatal patients are shown in Table I.

TABLE I
Indications

Indications	No. of cases
Post-datism	38
Toxaemia of pregnancy	24
Bad obstetric history	8
Intra-uterine growth retardation	6
Decreased foetal movements	6
Anaemia	6
Rh incompatibility	4
Intra-uterine death	3
Prolonged sterility	3
Diabetes	2
Total	100
Routine intra-partum	100

The most important indications for amnioscopy were post-datism and pre-eclampsia.

In a postdated patient (7 days or more overdue) amnioscopy was performed and if the findings were 'positive', and the vertex not high-floating, artificial rupture of membranes was done and the patient induced and electronic foetal heart rate monitoring performed. If the liquor was clear amnioscopy was repeated after one day or the patient was taken for elective induction of labour.

Patients with a blood pressure of 140/90 mm of Hg or above, with oedema and/or proteinuria, with a pregnancy of 36 weeks or above were taken in the study. After the amnioscopy, the management of these patients was similar to the postdated patient.

Results

The results of the 200 cases are shown in Table II.

It was found that, though, 71 patients showed a clear liquor antenatally, only 63 of them had a clear liquor at the onset of labour. Of the 8 who got meconium staining, 5 cases were of post-datism, 2 were of preeclampsia, and 1 was a case of bad obstetric history (with 2 stillbirths in the past).

Two cases of Rh incompatibility were noted to have yellow liquor. One was subjected to amniocentesis and the liquor was found to be clear indicating that the amnioscopy finding was wrong. The other patient was a case of BOH with twin pregnancy. After delivery, both the babies were severely affected and required exchange transfusion.

Mode of Delivery

Table III shows the mode of delivery of the two groups.

A. Seventy-three of our patients delivered normally, 12 of whom had shown meconium of liquor. All of these were given supportive therapy in the form of left late-

and 8 were done for other obstetrical indications like inlet CPD, Postdatism, BOH, etc.

B. In this group, 18 patients showing green liquor delivered normally; while 1 forceps and 2 caesarean sections were done for foetal distress.

Table IV correlates the colour of liquor with the Apgar scores.

TABLE IV
Colour of Liquor and Apgar Score

Colour of liquor	Average Apgar score at	
	Birth	5 Min.
Clear	7.3	9.8
Green	6.6	8.5
Yellow	5.0	6.0

The passage of meconium is the result of oxygen-conserving-foetal circulatory adjustments. The gut, one of the organs to become ischemic, shows increased peristalsis due to hypoxia, leading to the passage of meconium, a signal picked up by amnioscopy. Fortunately, the Apgar in the 'Green' liquor group are not significantly lower than in the clear group. This could be explained by the active measures in the form of supportive therapy or timely operative interference. We had one neonatal death. This was a case of postdatism where antenatally liquor was green in colour on amnioscopy but the non-stress test pattern was reactive. The patient went into labour and progressed well till full dilatation. At this stage foetal bradycardia (FHS 110 bpm) was noted. As the station of the vertex was still above the ischial spines, the patient was taken for a caesarean section. The baby's Apgar was 5 at birth and 7 at 5 minutes. But in spite of supportive therapy, the baby died after 12 hours and the cause, after post-mortem, was given as birth asphyxia.

Three of the 4 Rh negative patients

who showed clear liquor (including one false positive on amnioscopy as confirmed by amniocentesis) delivered normally and their babies were not affected. The fourth which showed yellow colour on amnioscopy, delivered twins which were severely affected.

One side effect reported is that amnioscopy stimulates the onset of labour. Sixteen per cent of our patients (between 38-40 weeks gestation) went into labour spontaneously within 6 hours of amnioscopy. (Saling quotes in his series an incidence of 25%). This may be as a result of release of prostaglandins as the procedure is generally done after 36 weeks. Thus, it is of no real disadvantage.

Discussion

Amnioscopy is of considerable value in the management of postdatism. The number of necessary inductions is reduced without increasing fetal risk. Moreover, the number of perinatal deaths is kept to a minimum.

In pre-eclampsia, similarly, if maternal condition allows, one can defer from induction to gain on the foetal maturity if amnioscopic findings are negative. On the other hand, active management can be instituted if meconium is present in the liquor.

Yellow liquor is much more difficult to diagnose than meconium stained liquor as was observed in one case we had false positive reading.

In patients complaining of decreased foetal movements, amnioscopy (in correlation with foetal heart rate monitoring) may prove all is well.

Erich Saling (1968) reports only one still birth among 2437 infants born after amnioscopic supervision (0.04%). In our small series of 200 cases, we had one perinatal death. These figures are impressive

particularly in view of the considerable proportion of high risk cases in this clinical material.

In conclusion, amnioscopy is a useful tool in the management of certain high risk cases, both antenatally and during parturition.

Conclusion

Of the 71 high-risk cases who had clear liquor antenatally, 8 had meconium staining on repeating amnioscopy when they came in labour. Two cases of Rh-incompatibility had yellow staining on amnioscopy. One of them delivered severely affected twins; while the other had clear liquor on amniocentesis, indicating the amnioscopy finding was wrong.

Fifty-six patients with a clear liquor deliver normally, 1 had a forceps delivery and 6 of them had a caesarean section. Those with meconium staining — 12 delivered normally, 4 had a forceps delivery and 14 had a caesarean section. All 79

patients with clear liquor on 'routine' intrapartum amnioscopy delivered normally. Eighteen with 'green' colour delivered normally. Eighteen with 'green' colour delivered normally, 1 had a forceps delivery and 2 had a caesarean section.

The Apgar scores at birth, and 5 minutes, were lower but not significantly so in those who had green liquor, as compared to those with clear liquor. This could be explained by the active supportive measures employed.

There was one neonatal death in our series, and the cause of which was given as birth asphyxia on post-partum. The patient had shown 'green colour' on amnioscopy.

Sixteen of our antenatal patients went into spontaneous labour within 6 hours of amnioscopy — a side effect of amnioscopy?

Reference

1. Saling, E.: Fetal and neonatal hypoxia, London, Edward Arnold Publication Ltd., 1968.