

CAESAREAN SECTION IN KASHMIR

by

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The increasing foetal indications for caesarean section have led to a rising incidence of this operation in the West as well as the developing countries like India. With advanced anaesthetic techniques and available surgical skill this operation has become safer. But a casual approach to this operation can be dangerous (Peel and Chamberlain, 1968) and great discretion is warranted in deciding on this form of delivery. This is all the more important in an underprivileged country like ours, considering the risks of caesarean sections as compared to those of vaginal delivery.

The incidence of caesarean section in one study from Scotland rose from 2.2 percent in 1948-52 to 5.4 percent in 1963-66 (Mac Gilzivary, 1968). In New South Wales the incidence was reported 4.5 per cent (Cope 1968). From India, various authors have also reported a rising incidence. In Madras it rose from 0.8 per cent in 1929-40 to 2.1 per cent in 1954-61 (Menon, 1964) and in one hospital of Bombay from 1.62 per cent in 1950-54 to 7.84 per cent in 1960-61 (Aptekar, 1964).

The figures from Kashmir appear equally high and it was therefore felt worthwhile to find out the reasons for the same

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and to analyse other events in the course of this operation in this valley.

Material and Methods

Two hundred and sixty consecutive caesarean section operations performed in the months September, 1972—October, 1973 in S. M. H. S. Hospital of the Medical College, Srinagar, have been studied and analysed. The cases whose records were found incomplete have been excluded from this study.

Results

Incidence

Out of a total of 1698 deliveries in 1969-70 there were 180 (10.5 per cent) caesarean sections and out of 2242 deliveries in 1972-73 there were 238 (10.6 per cent) sections. The incidence over the years seems to remain static.

The Background of Patients

One hundred and fifty-six patients (60 per cent) belonged to the city. The others came from various villages and districts ranging in distance from 10 to 60 miles from the hospital. The level of haemoglobin has been shown in Table I, 180 patients (69.5 per cent), falling in the range of 6-9 per cent and only 16 patients (7 per cent) having a haemoglobin of more than 11 g per cent. Blood pressure above 130/90 mm. Hg was seen in 78 patients (30 per cent), 22 of whom were in the

TABLE I
Level of Haemoglobin in Patients Undergoing
Caesarean Section

Hemoglobin per cent	No. of patients	Percentage
More than 11 g	16	7
10-11 g	52	20
6-9 g	180	69.3
3-5 g	12	4

range of 190/130 to 260/190. 12 patients came with all the signs and symptoms of shock.

One hundred and twenty patients had been handled by untrained midwives before entry to the hospital, another 40 having been referred by district hospitals or Primary Health Centres. Only 20 patients were on antenatal care of the hospital.

Duration of labour at the time of admission was as follows-42 patients (16.1 per cent) got admitted before labour had started, 52 were in labour for 1-7 hours, 92 for 8-14 hours 46 for 15-24 hours and 28 for more than 24 hours.

The membranes were absent in 142 patients (54.6 per cent) at the time of admission.

Indications for Caesarian Section

Table II shows the indications for the operation in 260 patients. When multiple indications were present, the most urgent has been used for the purpose of this classification. All previous caesarean sections have been listed under that category no matter what other indications for operation were present. Fifty seven patients (21.8 per cent) had previous caesarean section, 40 of them with the history of one, 15 with two and 2 patients with three sections.

In the group of malpresentations are included 30 cases with transverse lie, 10 with breech, 2 with brow, 1 with

TABLE II
Indications for Caesarean Section

Indication	No. of patients	Percentage
Previous caesarean section	57	21.8
Foetal distress	42	16.2
Contracted pelvis	30	11.5
Impending uterine rupture	28	10.7
Malpresentations	30	11.5
Cord prolapse	14	5.4
Postmaturity	6	2.3
Inco-ordinate uterine action	22	8.5
Placenta praevia	14	5.4
Accidental haemorrhage	6	2.3
Hypertension	2	0.8
Rh Incompatibility	3	1.2
Diabetes mellitus	3	1.2
Cicatrized vagina	1	0.4
Fibrosis cervix	2	0.8

mentoposterior and five with compound presentations.

Foetal distress as an indication was present in 42 patients (16.2 per cent) out of which the head could not engage due to inlet contraction in 19 cases and cephalopelvic disproportion with history of previous caesarean section was present in 8 cases. Fetal distress was diagnosed when there was evidence of meconium in liquor amnii and/or the fetal heart rate went outside the range of 110-168 per minute.

Contracted pelvis, assessed clinically, was present in 30 patients (11.5 per cent) as a prime cause for caesarean section. Many patients with previous caesarean section, abnormal presentation, impending uterine rupture and fetal distress also had contracted pelvis.

Inco-ordinate uterine action was seen in 22 patients and cord prolapse and placenta praevia in 14 each.

Impending rupture, as an indication was present in 28 patients.

Type of Caesarean Section

Lower segment caesarean section was performed in all but 4 patients. These 4 had the classical caesarean section, one each for adhesions around the bladder due to previous caesarean; compound presentation with shock; osteomalacic pelvis with difficult approach and central placenta praevia with jaundice and lower segment not well formed.

Elective caesarean section was performed in 20 patients 8 out of whom had two previous caesareans and contracted pelvis. Others were having contracted pelvis with history of previous craniotomy (2 patients), postmaturity with contracted pelvis (2 patients), precious baby with bad obstetric history (2 patients) and 1 patient each for diabetes with big baby, breech with previous caesarean, elderly primigravida with post maturity and cephalopelvic disproportion with previous caesarean section.

Induction of labour was tried in 8 patients, 4 with postmaturity and 2 each with hypertension and diabetes, the technique being forewater amniotomy under antibiotic cover with intravenous oxytocin drip for 48 hours.

Perinatal Mortality

Thirty patients, on admission were found to have intrauterine foetal death, most of them due to obstructed labour or antepartum haemorrhage (Table III). Neonatal death resulted in 10 patients, 4 with placenta praevia and premature baby and 1 each due to aspiration pneumonia, respiratory distress and asphyxia.

Maternal Mortality and Morbidity

There was no maternal death in this series. Twenty patients developed urinary infection, 15 had wound infection with

TABLE III
Stillbirths in Caesarean Section

Total sections	— 260
Total stillbirths	— 30
Percentage of still births	— 11.5 percent
<hr/>	
Chief causes of stillbirth	No. of patients
<hr/>	
Impending rupture	16
Antepartum haemorrhage	8
Severe hypertension	4
Intrauterine infection	1
Congenital abnormality	1

wound separation in 6 of them, 4 had puerperal sepsis while thrombophlebitis, endometritis and post operative uterine haemorrhage complicated 2 each.

The average stay in the hospital was 14 days ranging from 8 to 42 days.

Discussion

The higher incidence of caesarean section in our hospital stems from multiple factors. Being the main teaching hospital in the valley of Kashmir, many complicated patients are referred from various district hospitals, village dispensaries and Health Centres. Others get admitted directly after having been unsuccessfully handled by untrained midwives. This is bound to reflect on the higher incidence.

The background of patients attending the hospital is of prime importance. Most of them hail from lower socioeconomic strata of society with poor nutritional and obstetric history and associated systemic diseases. This is reflected by the degree of anaemia with a haemoglobin of only 6-9 per cent in about two thirds of the patients and the incidence of high blood pressure in 30 per cent. Only 20 per cent of the patients were under antenatal care, another reflection on the ignorance of the patients. Most of them had never been checked up medically before going



Fig. 1
Photomicrograph of vaginal exfoliated cells in normal non pregnant condition showing reaction for acid mucopolysaccharide.

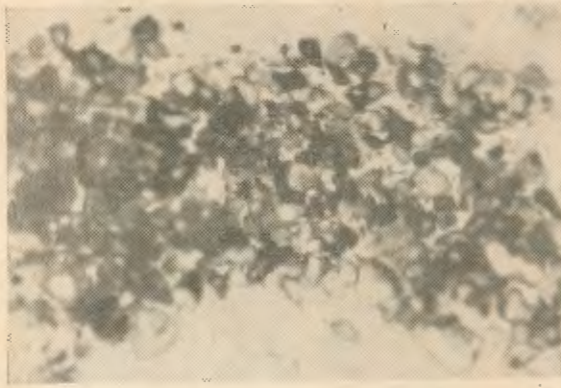


Fig. 2
Photomicrograph of vaginal exfoliated cells showing high intensity of reaction of acid mucopolysaccharide during labour.

Tuberculous Endometritis—Reddy and Raju pp. 791-793



Fig. 1
Tubercle in the superficial part of the endometrium. H. & E. x 75.

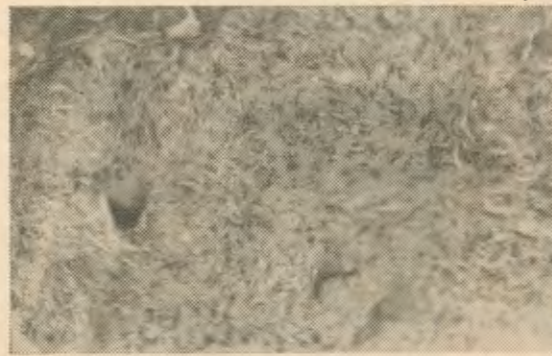


Fig. 2
Typical tubercle with extensive fibrotic reaction. H. & E. x 75.

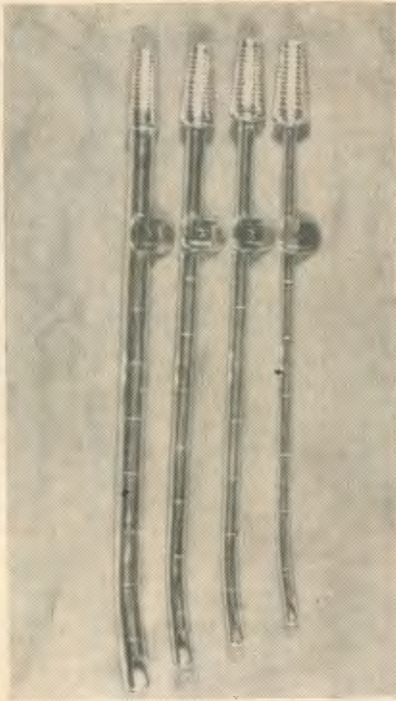


Fig. 1

Khandwala Suction Curettes (Pat. No. 136121)
— 4 Sizes — 6mm., 8mm., 10mm. and 12mm.



Fig. 2

Khandwala Suction Curette — Magnified TIP.

Menstrual Regulation—Khandwala and Pai pp. 787-790

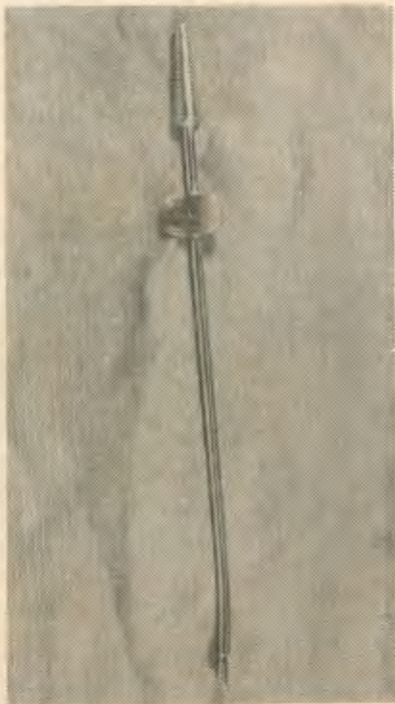


Fig. 1

Khandwala Menstrual Regulation (M.R.)

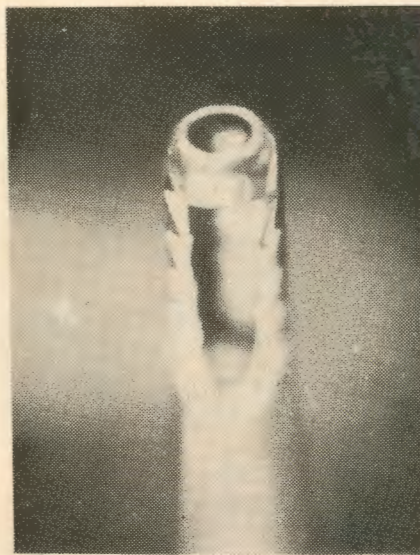


Fig. 2

Khandwala Menstrual Regulation Curette —
Magnified TIP



Fig. 1
Primary Krukenberg tumour which is unilateral and lobulated.

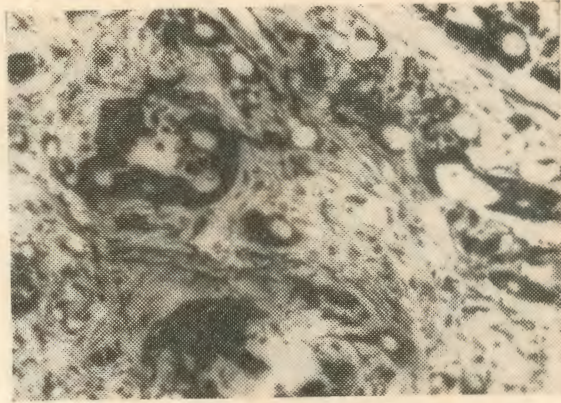


Fig. 2
Microphotograph of the tumour showing glandular acini, signet-ring cells and mucinous degeneration. H. & E. Stain: x 200.



Fig. 3
Secondary bilateral Krukenberg ovarian tumour.



Fig. 4
Microphotograph of the primary lesion in the colon showing mucoid cancer with signet-ring cells, H. & E. x 200.

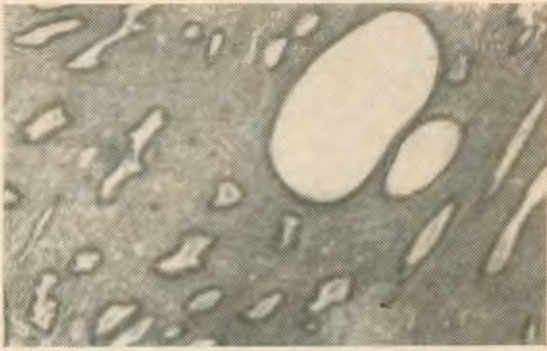


Fig. 1
Showing cystic hyperplasia of the endometrium
(X 94) HE.



Fig. 2
Shows area underneath the loop. One side
shows cystic hyperplasia and the other is nor-
mal for that phase of the cycle (X 94) HE.

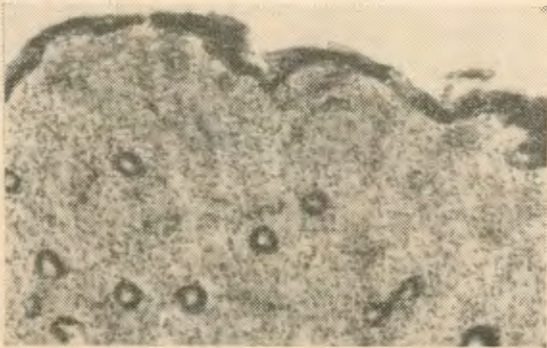


Fig. 3
Shows proliferative endometrium, with stromal
oedema, increased vascularity and inflammatory
cells in the gland lumen (X 94) HE.

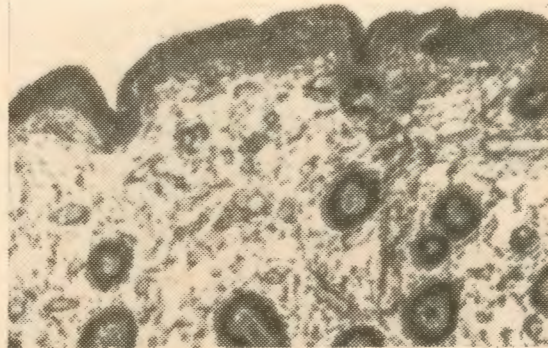


Fig. 4
Shows localized heaping of surface epithelium
(X 94) HE.

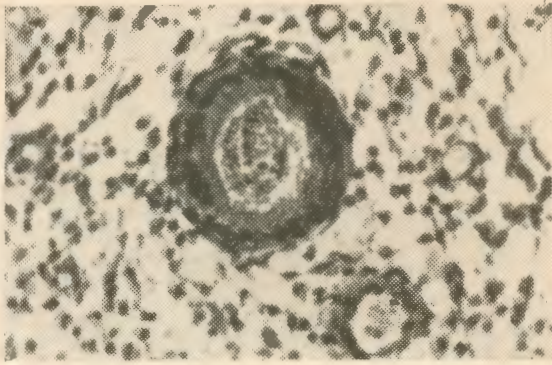


Fig. 5
Shows inflammatory cells and red blood cells in the gland lumen (X 235) HE.

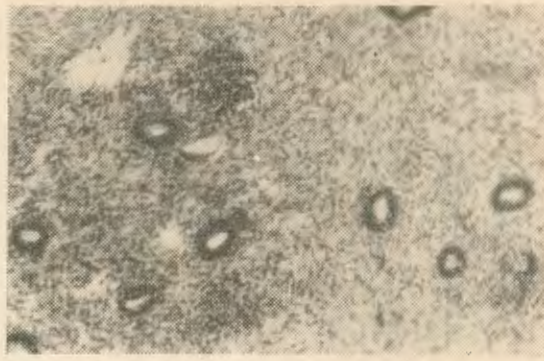


Fig. 6
Shows dense stroma with lymphoid follicles (X 94) HE.

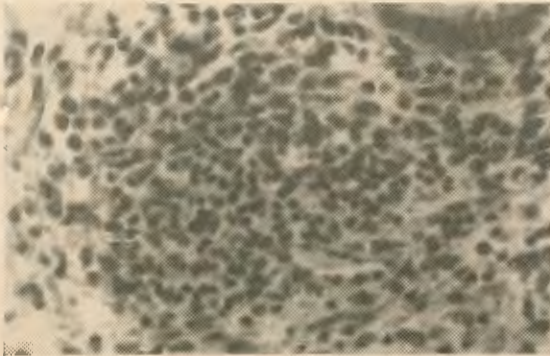


Fig. 7
Shows lymphoid follicle (X 35) HE.

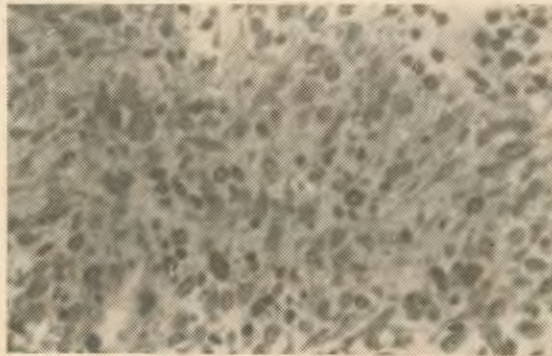


Fig. 8
Shows marked cellularity of the stroma near the lymphoid follicle (X 235) HE.



Fig. 9
Shows stromal oedema of the endometrium
(X 94) HE.

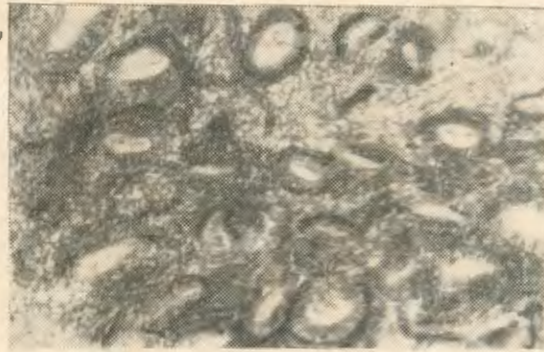


Fig. 10
Shows increased vascularity of the stroma. The
vessels are also dilated (X 94) HE.

Struma Ovarii—Talib et al. pp. 847-851

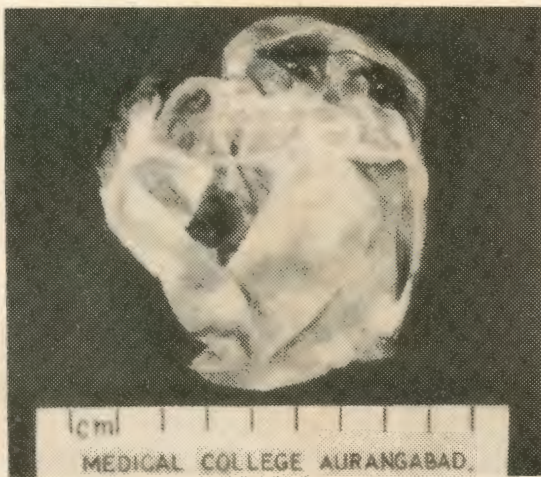


Fig. 1
Cut section of a large mass of 5" X 4" cystic
lobulated well encapsulated.

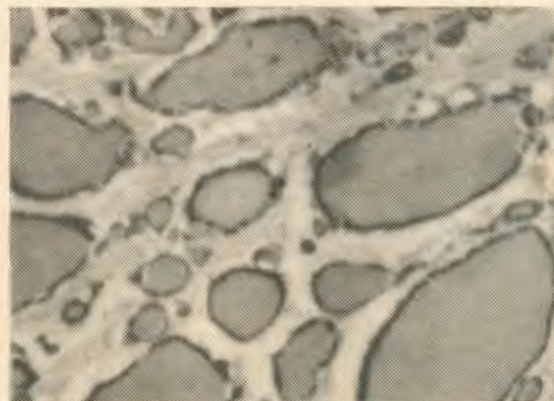


Fig. 2
Photomicrograph showing predominantly thyroid
tissue. The acini are lined by cuboidal epithe-
lium and filled with colloid.

GRAPH SHOWING PERCENTAGE OF SUPERFICIAL CELLS IN THREE DIFFERENT PHASES.

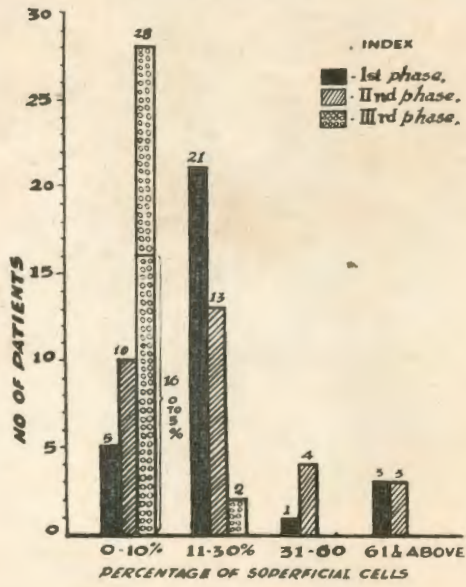


Fig. 1

Graph showing percentage of superficial cells in three different phases.

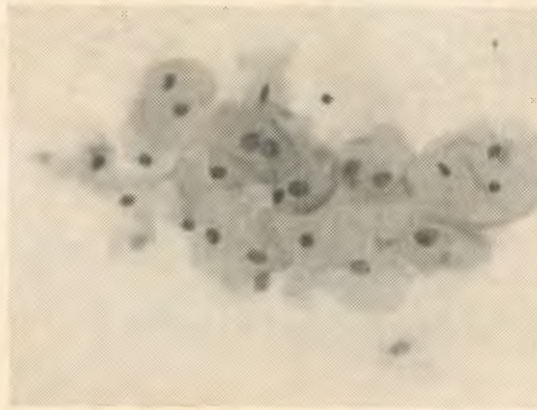


Fig. 2

Microphotograph showing appearance of intermediate cells in 1st phase.



Fig. 3

Microphotograph showing early secretory phase in 1st phase.



Fig. 4

Microphotograph showing atrophic endometrial glands in 3rd phase.



Fig. 1
Male Phenotype.



Fig. 2
Ext. genitalia showing bifid scrotum and pubic hair.



Fig. 3
Small penis, with perineo-scrotal, hypospadias urethra.



Fig. 4
2/12 Yr. Male, Genetic Sex 46, XY, with bifid scrotum and small adherent penis.

Estimation of Foetal Maturity—Shah and Patil
pp. 728-732

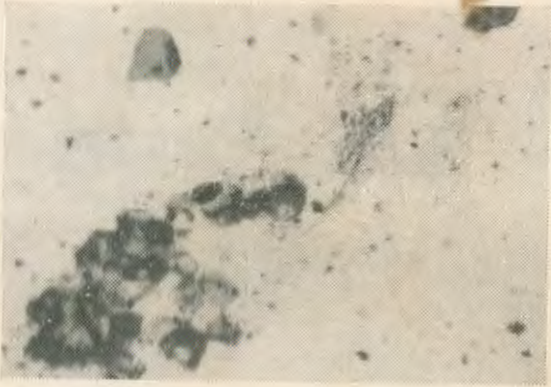


Fig. 1
Microphotograph under high power showing a large clump of polygonal, anucleated orange-staining cells.
Upper corner shows a single, blue cell with a dark-staining nucleus.



Fig. 1
Shows a red, fleshy, oedematous, haemorrhagic mass at the vulva anterior to the cervix.

Torsion of Hydrosalpinx—Banker et al. pp. 845-846



Fig. 1
Shows torsion of hydrosalpinx

into labour. The absence of membranes in 54.6 per cent and the fact that a majority of them came late in labour (about 72 per cent with labour of more than 8 hours duration) adds considerably to the obstetric problems, both maternal and foetal.

While analysing the indications for caesarean section it is seen that contracted pelvis and impending rupture collectively accounted for 21 per cent of total indications. If we include the incidence of previous caesarean and fetal distress, which in most of our patients were a result of disproportion, then more than one third of patients have undergone caesarean section due to pelvic contraction. In fact many of our patients whose pelvis had been assessed as adequate failed to progress in labour chiefly due to inlet contraction. Persistent occipitoposterior position or deflexed head had accounted for only a small number of these patients. This difficulty in assessing the pelvis by clinical means before the onset of labour has been emphasized by others also (Pinkerton and Carson 1968).

Such a high rate of pelvic contraction gives food for thought. It appears that the general height of our patients which is much shorter (average 4 feet 10½ inches) than Western women is responsible for the smaller pelvis with higher rate of caesarean section. Mac Gillivray (1968) found that the rate of caesarean section was higher in women with shorter stature. The other cause of pelvic contraction is the large number of osteomalacic pelvises which we come across. This is seen typically in 'Gujjar' women, a mountainous tribe living in dark one-roomed mud houses which do not see the light of the sun (Mehdi 1971). These women are prone to Vitamin D deficiency because of their peculiar habitat, early

marriage, multiparity, prolonged lactation and poor nutrition.

Racial and genetic factors cannot be excluded as a cause of pelvic contraction and a statistical analysis of female pelvis is in order here.

The foetal indications for caesarean section are quite comparable to Western figures. Malpresentations, cord prolapse and foetal distress formed 11.5, 5.4 and 16.2 per cent of the indications, respectively. Elective caesarean section was performed on patients with a bad obstetric history, postmaturity and history of previous sections, again reflecting the trend towards preservation of the foetus.

The high figures of stillbirth (11.5 per cent) are very discouraging. Even as far back as 1949 Marshal and Cox reported 1.6 per cent still births in caesarean section and there were only 1.1 per cent stillbirths in the series of multiple repeat caesarean section analysed by Browne and Hynes (1965). The high incidence in our study, almost ten times that reported in these series from the west is explained by the fact that all these patients had intrauterine foetal death on admission in the hospital, the main cause being arrival late in labour, cephalopelvic disproportion and malpresentations, antepartum haemorrhage and poor maternal condition. Severe anemia and undetected hypertension in about one third of the patients are the other major factors operating in intrauterine death.

Total perinatal mortality in our study was 15.5 per cent. Over the last two decades there has not been much improvement in perinatal mortality in various reports from India. Das (1956) reported a figure of 18.85 per cent, Parikh and Pancholi (1964) reported 13.9 per cent and Sexena (1964) had gross perinatal mortality of 19.7%.

These high figures will continue to be a nightmare to the obstetrician until the general health and education of the mothers improves and there is availability of blood, anaesthesia and trained surgical staff in districts and Health Centres.

In spite of the arrival late in labour, absent membranes in the majority and previous handling by unskilled midwives, the absence of maternal mortality strikes a note of optimism, and the low maternal morbidity figures are equally encouraging. Puerperal sepsis (endometritis and thrombophlebitis) occurred in 3 per cent of patients. We administer antibiotics routinely in all the patients undergoing caesarean section, and this accounts for the lower rate of infection than expected. Other workers have also reported on the beneficial effects of prophylactic antibiotic administration in caesarean section, particularly for patients who have gone into labour (Gibbs, *et al.*, 1972 and Weisberg, *et al.*, 1971). The high rate of urinary infection (8 per cent) cannot be related definitely to the operation. Probably these patients have had urinary infection which we detected on routine analysis. Wound infection and wound separation was also common and we attribute it to the poor hygiene and low nutrition of the patients.

Summary

The incidence of caesarean section was found high in Kashmir. Factors responsible for this have been analysed. Pelvic contraction was found an important and major indication for this operation. Besides osteomalacia other genetic and racial factors contributing to pelvic contraction have been discussed.

The factors responsible for high rate

of intrauterine death have been outlined, namely lack of proper antenatal check-up, mismanagement outside, arrival late in labour and poor physical condition of the patients.

Because of poor hygiene, ruptured membranes and unskilled handling of these patients outside the hospital, emphasis is laid on the routine use of antibiotics to reduce the maternal morbidity.

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