

ANAESTHESIA IN VAGINAL OPERATIVE OBSTETRICS

by

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Analgesia, hypnotics and anaesthesia have become integral parts of modern obstetrics. Parturient needs relief from pain during normal labour. In our country painless labour is hardly practised. At the most reassurance is added to injection of pethidine or allied drugs. However, when the question comes of operative interference, choice of anaesthesia arises.

Methods and Material

This paper deals with study of anaesthesia in 587 vaginal obstetric operations. These cases were from Obstetric Department of K. E. M. Hospital from 1964 to 1968. Operative procedures included were forcep delivery, vacuum extraction, rotation either by forcep or hand, internal podalic version, manual removal of placenta, craniotomy, decapitation and evisceration. At the same time there were totally 554 abdominal obstetric operations. Type of anaesthesia is analysed in each operative procedure. Age, parity pre-operative status and anaesthetic complications

are studied in detail. Maternal and foetal outcome are analysed in relation with anaesthesia.

Type of Anaesthesia

Choice of anaesthesia in obstetrics is dependent on many factors like, (1) patient's general condition, (2) amount of blood loss, (3) type of procedure or operative interference, (4) amount of relaxation needed, (5) amount of time required, (6) dexterity of operating obstetrician, (7) foetal condition, (8) state of stomach and (9) surrounding facilities.

Present paper deals with cases dealt with in a teaching institution where all necessary facilities were available. However, patients were not in a desirable state as many were emergency admissions from small maternity homes or patient's home after prolonged labour—neglected condition with dehydration, nutrition and sedation unattended to. This situation naturally forces obstetrician and anaesthetist to choose a safer course. It is needless to say that the obstetrician and the anaesthetist should work hand in hand. Table I shows distribution of operated cases according to anaesthesia administered.

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Received for publication on 23-7-1971.

Pudendal Nerve Block

Out of 355 forcep deliveries, 340 had pudendal block, 8 had general anaesthesia, 3 had spinal and 4 had saddle block.

Distribution almost runs parallel for vacuum extraction a comparable procedure. The pudendal block when done thoroughly gives excellent anaesthetic effect and relaxation for operations like forceps, vacuum extraction and craniotomy. Its biggest advantage is safety and freedom from complications. Pudendal block was utilised in 22 out of 28 craniotomies. Craniotomy hardly involves unbearable pain or pressure on the mother, as destruction and surgery are on the foetal skull. Hence it can easily be done with local infiltration or intravenous pethidine (as in 5 cases) or even without anaesthesia.

General Anaesthesia

Excluding pudendal block, commonest anaesthesia used was general anaesthesia. Totally 121 operations needed general anaesthesia. Internal podalic version was the commonest indication, i.e. 69 cases. This procedure is highly manipulative, crampy and at times difficult needing very thorough relaxation of the uterus which requires deep plane of anaesthesia. This was adequately achieved by open ether in 54 cases and in the remaining 15 with nitrous oxide, oxygen and relaxants. Local, spinal or other methods would be inadequate or almost useless for this operation. Very often these are the cases transferred from patient's home and/or small maternity homes after a prolonged, neglected labour, with a full stomach. Under this trying situation anaesthesiologist has to be very careful and cautious, careful to give plane of anaesthesia to obstetrician's need and cautious to avoid anaesthetic complications.

Manual removal of placenta was carried out under general anaesthesia in 36 cases and under intravenous pethidine in 27 cases. Some of these cases were transferred in a moribund state after considerable blood loss and retention of placenta for a

few minutes to many hours. When the cervix is wide open to permit introduction of obstetrician's hand, intravenous or intramuscular use of pethidine is usually adequate. In cases with reformed or a closing cervix, thorough relaxation is afforded by general anaesthetics. This was done by open ether in 26 cases and nitrous oxide, oxygen and relaxants in 10 cases.

General anaesthesia was administered in rotational manoeuvres like manual rotation or forcep rotation. Two patients undergoing evisceration, were also given general anaesthesia.

Spinal or Saddle Block Anaesthesia:

This was used much more frequently for abdominal obstetric operations than vaginal operations. Out of 587 vaginal operations, it was used in only 20 cases as opposed to 406 out of 554 abdominal operations. This is easily understood as vaginal obstetric procedures need either deep plane of anaesthesia or local infiltration as opposed to abdominal operations. This anaesthesia is a disputed one. Antagonists go to extreme and say that "surgeon who routinely uses spinal anaesthesia starts his operations with a 1% mortality rate." Anderson made a strong plea for freer use of spinal anaesthesia for forcep delivery. De lee and Greenhill opposed it. Twenty patients had spinal or saddle block anaesthesia. Saddle block is a very useful and adequate anaesthesia for a difficult forcep delivery or rotational manoeuvres. Out of 20 cases, 11 times spinal or saddle block were used for forcep delivery or vacuum extractions which were expected to be difficult or tentative before caesarean section (trial forcep). In 1 case it was given for a difficult craniotomy where general anaesthesia was contraindicated as the patient had extensive active tuberculosis.

Intravenous Pethidine: This does not involve anaesthesiologist and truly speak-

TABLE I
Distribution of Operative Cases According to Anaesthesia

Vaginal operation	Puden- dal block	Nitrous Oxide + oxygen	General anaesthesia Open ether	Spinal anaesthesia	Saddle block	Intra- venous pethi- dine	Total
Forcep delivery	340	8	—	3	4	—	355
Vacuum extraction	50	—	—	4	—	—	54
Rotational delivery— Manual rotation	—	6	—	2	—	—	8
Forcep rotation	2	—	—	2	4	—	8
Internal podalic version	—	15	54	—	—	—	69
Manual removal of placenta	—	10	26	—	—	27	63
Craniotomy	22	—	—	1	—	5	28
Evisceration	—	2	—	—	—	—	2
Total	414	41	80	12	8	32	587

ing it cannot be classified under anaesthesia. It has calming and analgesic effect. It was used in 32 vaginal operative cases which included 27 cases of manual removal of the placenta and 5 of craniotomy. As mentioned earlier, if the cervix admits operator's hand then intravenous or intramuscular pethidine is adequate. This avoids complications of anaesthesia in patients with low condition. Postoperative recovery is quicker than with anaesthesia. In craniotomy pethidine allays patient's anxiety and thus facilitates operation on foetal cranium.

Type of admission: Table II shows that 202 were registered cases and 385 were emergency admissions. Many of emergency admissions were after a prolonged labour, exhaustion, fruitless waiting and at times in moribund condition. Higher incidence of forcep delivery cases and internal podalic version account for preponderance of pudendal block and general anaesthesia. Emergency cases are poorly prepared for anaesthesia than regular patients.

TABLE II
Booked or Emergency

Type of anaesthesia	Booked	Emer- gency
Pudendal block	155	259
General anaesthesia	31	90
Spinal	5	7
Saddle block	3	5
Intravenous pethidine	8	24
Total	202	385

Age and Parity

Majority of patients, 312 were in 21 to 30 age group. There were 203 between 31 to 40 years and 60 below the age of 20 years. Three hundred and forty-four were primiparous patients out of 587 cases. This is because uterine inertia, cephalopelvic disproportion, occipito-posterior,

prolonged labour, post-partum haemorrhage and retained placenta are commoner in primiparae than in other para groups. There were 98 in 2nd to 4th para group, 135 in 6th to 7th para group and 10 in 8th or higher parity group.

Pre-operative condition

Pre-operative condition of a patient has lot to contribute in operative and post-operative well being of patients. With tremendous advances, surgery has become comparatively safe but our patients are in too poor shape that they nullify the advantage and hence Sir Moynihan's famous remark, "Now that we have made surgery safe for our patients let us make our patients safe for surgery." Table III shows that 219 out of 587 undergoing operative interference had associated complications. Eighty patients had moderate or severe anaemia i.e. haemoglobin percentage less than 60 or 40 respectively. Eighty-five had toxæmia of pregnancy, 10 with heart disease and 30 had prolonged labour with maternal exhaustion or dehydration or both. All these factors positively add to the morbidity or retard recovery rate of tissues locally and health in general. Table IV shows physical status (American Association of Anaesthe-

siologists) of patients in the present series. Three hundred and sixty-six were normal and fit to stand operation and anaesthesia, though half of them were mildly anaemic. A large number, 205 fell in Grade II, 14 in Grade III and 2 in Grade IV.

TABLE III
Pre-operative Associated Conditions

Condition	Number of cases
Anaemia (moderate or severe) ..	80
Toxaemia of pregnancy ..	85
Heart disease	10
In shock	7
Diabetes	3
Prolonged labour and dehydration	30
Pyrexia	4
Total	219

TABLE IV
Pre-operative Physical Status

	Number of cases
Grade I	366
Grade II	205
Grade III	14
Grade IV	2
Grade V	—

TABLE V
Complications

Complications	Pudendal block	General anaesthesia	Spinal anaesthesia	Saddle block	Intra-venous pethidine
Insufficient action	25	—	1	—	—
Hypotension	—	—	2	—	—
Cyanosis	—	6	1	—	—
Aspiration of stomach contents ..	—	10	1	—	—
Laryngeal spasm	—	3	—	—	—
Pulmonary atelectasis	—	1	—	—	—
Cardiac arrest	—	—	—	—	—
Paresis or paraplegia	—	—	—	—	—

Anaesthetic Complications

Table V shows complications attributable to anaesthesia. Complications due to operation are not listed here. In 25 cases pudendal block became inadequate as the operation lasted longer. These cases were supplemented by trilene inhalation or repeat local infiltration. In 1 case spinal anaesthesia lasted for only 20 minutes and hence general anaesthesia was substituted. Two patients had significant hypotension following spinal anaesthesia needing prompt treatment. The most probable explanation for hypotension is forwarded by Quilligan and Tyler that it is due to hypotensive supine syndrome. Six developed cyanosis with general anaesthesia and 1 with spinal anaesthesia. They improved immediately with oxygenation. Eleven had aspirated secretions and regurgitated material from stomach. All but one settled down with routine suction and postoperative exercises. One out of these 11 developed partial lung collapse but recovered in 10 days time. In the city of Birmingham death from aspiration of vomit has accounted for 4 per cent of maternal deaths in recent years as mentioned by Parker.

Maternal Mortality

Out of 587 operated vaginally, 7 mothers died. Not one of them could be related to anaesthetic directly or indirectly.

Four died from pudendal block group, 1 each from general, spinal and saddle block group. Two died of hepatic coma, 2 each of postpartum haemorrhage and toxæmia and 1 following burns.

Foetal outcome

Table VI shows foetal outcome in 494 cases. Cases of manual removal of the placenta, craniotomy and evisceration are excluded as anaesthesia had no concern with foetal outcome. It appears that still-birth rate was high with general anaesthesia but this is easily accounted by internal podalic version which invariably carries high stillbirth rate. In already jeopardised foetus, general anaesthesia can certainly aggravate depression which may be completed by difficult forcep or manipulation. Out of 392 needing pudendal block, 82 babies were born asphyxiated. This is because most forcep deliveries were for indications like foetal distress, prolonged labour and maternal distress. Eastman states that if proportion of nitrous oxide to oxygen reaches or exceeds 90:10 and is maintained at that level for excess of 5 minutes, a marked hypoxia is produced in about one case in three and occasionally profound asphyxia neonatorum. It is not possible to know exactly the incidence of perinatal loss and neonatal asphyxia due to anaesthesia as

TABLE VI
Foetal Outcome

Type of anaesthesia	Total cases	Still births	Neonatal mortality	Mild asphyxia	Severe asphyxia
Pudendal block	392	8	20	43	39
General	83	15	10	7	5
Spinal	11	1	1	2	1
Saddle block	8	—	1	1	—
Total	494	24	32	53	45

multiple factors are intermingled and they can alter the outcome.

Summary

1. Anaesthesia in 587 vaginal operative obstetric operations is studied in detail. Commonest anaesthetic used was pudendal block in 414, while general anaesthesia was next common i.e. 121 cases.

2. Cases are analysed age and parity-wise. Commonest age group being 21 to 30 age and primiparity being the commonest parity.

3. Pre-operative associated conditions were present in 219 cases. Eighty had moderate to severe anaemia, 85 had toxæmia of pregnancy and 30 were in prolonged labour and dehydrated state.

4. Complications of anaesthesia are analysed. There was no maternal death due to anaesthesia.

5. There were 7 maternal deaths unrelated to anaesthesia.

6. Foetal outcome is studied depending on type of anaesthesia.

Acknowledgement

We are very thankful to Dr. T. H. Rindani, Dean, K. E. M. Hospital, Dr. V. N. Purandare, Head, Department of Obstetrics and Gynaecology and Dr. A. J. Dhruva, Professor of Anaesthesiology for their permission to publish the data.

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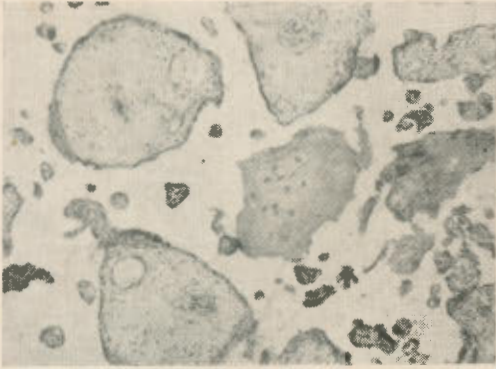


Fig. 1

Microscopic appearance of placenta from still-birth showing partial and complete occlusion of foetal blood vessels in the villi (x 270).

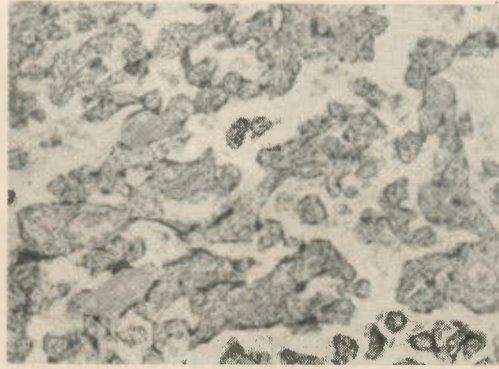


Fig. 2

Microscopic appearance of the placenta from toxæmia of pregnancy showing "Tanney change" in the villi and fibrinoid necrosis (x 270).

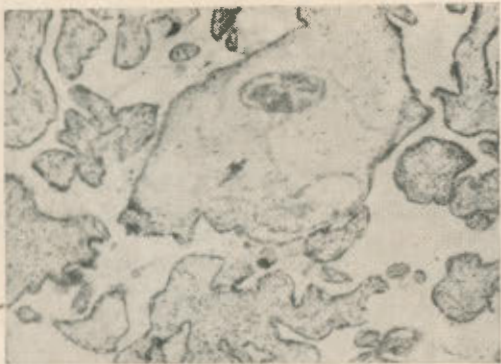


Fig. 3

Microscopic appearance of the placenta from toxæmia of pregnancy showing stromal fibrosis in the villi (x 270).

Ectopic Loop in Fallopian Tube—Rao pp. 268-271

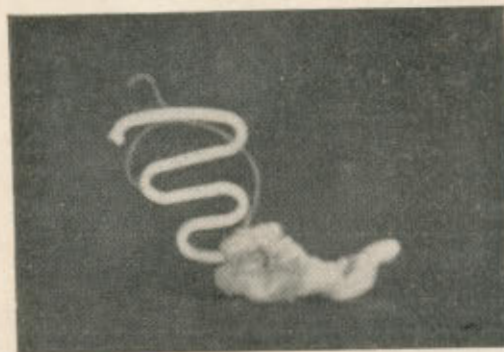


Fig. 1

Lippes loop emerging from the fimbria of left fallopian tube.

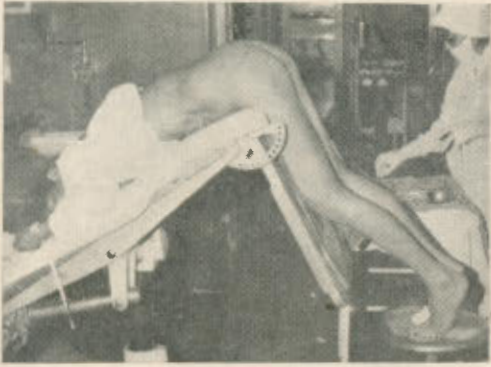


Fig. 1
Position of the patient.



Fig. 2
Local infiltration with xylocaine.



Fig. 3
Cul de Sac puncture with trocar.



Fig. 4
Enlarging the opening by uterine
dressing forceps.

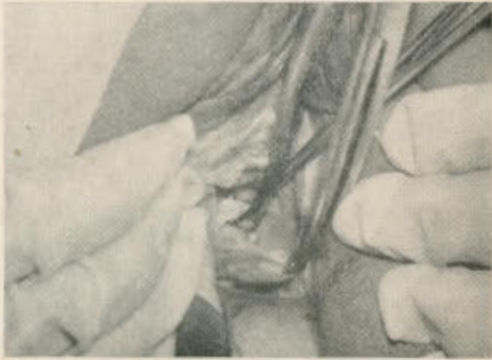


Fig. 5
Tube pulled out with a curved forceps.



Fig. 6
Ligation of tube by modified Pomeroy's method.



Fig. 7
Expelling air from peritoneal cavity by pressure on abdomen.

Naegle's Pelvis—Raval et al. pp. 339-340



Fig. 1
Shows single foetus in vertex presentation and floating head.



Fig. 1

Photograph of placenta showing the tumour on the decidual aspect.



Fig. 2

Photomicrograph showing capillary haemangioma, surrounded by a thin layer of fibrous tissue and syncytial layer. H & E x 60.



Fig. 3

Photograph of placenta showing two tumour nodules on the decidual aspect.



Fig. 4

Photograph showing the cut surface of the tumour.



Fig. 5
Photomicrograph showing closely packed thin walled vascular channels. H & E x 260.



Fig. 1
Photograph showing ovarian choriocarcinoma, normal uterus and right ovary separate from the growth.



Fig. 2
Photograph of the liver with secondary haemorrhagic choriocarcinomatous deposits.

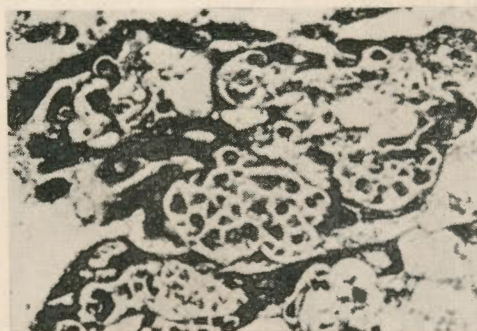


Fig. 3
Microphotograph of the primary choriocarcinoma of the ovary showing trophoblastic cells. H & E x 200.

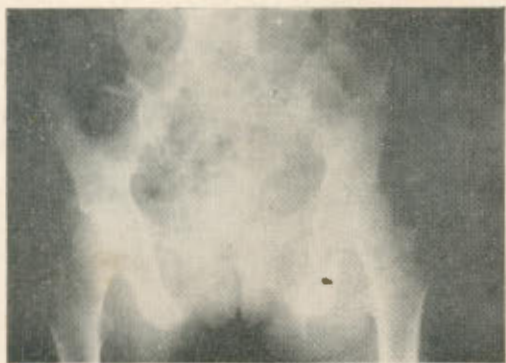


Fig. 1
X-ray of the pelvis showing destruction of ala of the sacrum on the left side.

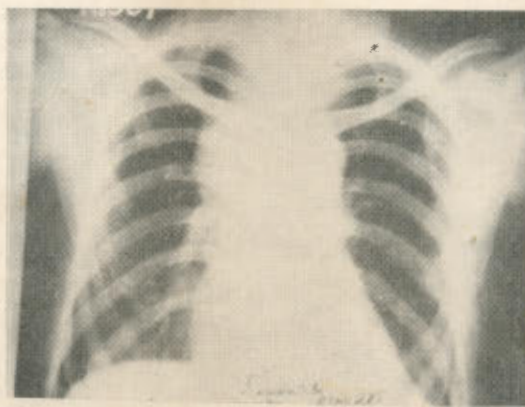


Fig. 2
Skiagram of the chest. Shows widening of the mediastinal shadows due to enlargement of the mediastinal gland.

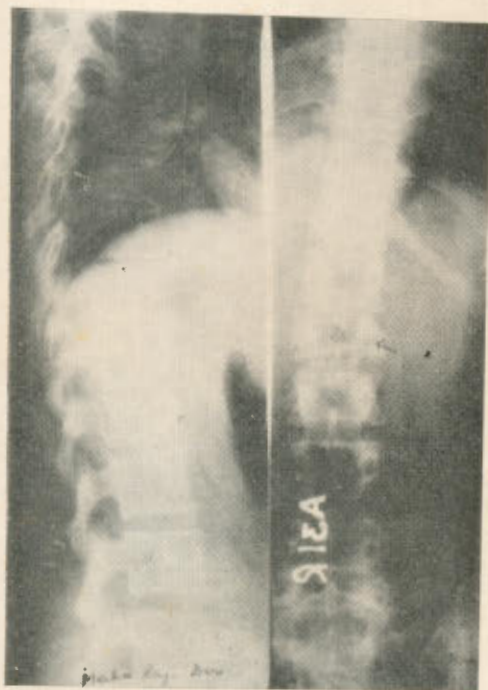


Fig. 3
Skiagram of the dorso-lumbar spine. Shows scoliosis of the spine with destruction of the pedicle of L-2 with compression.



Fig. 4
Clinical photograph showing enlargement of left supraclavicular lymph nodes.

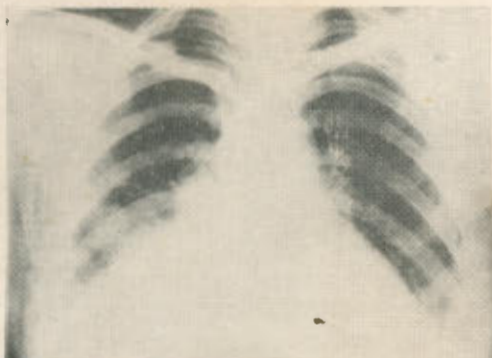


Fig. 5

Skiagram of the chest showing parenchymatous secondaries in both the lungs.



Fig. 6

X-ray of the pelvis shows destruction of the iliac bone including the acetabular margin on the left side.

Embryonal Rhabdomyosarcoma (Botryoid Type) of the Cervix—Kher et al. pp. 359-362



Fig. 1

Gross appearance of the tumour.

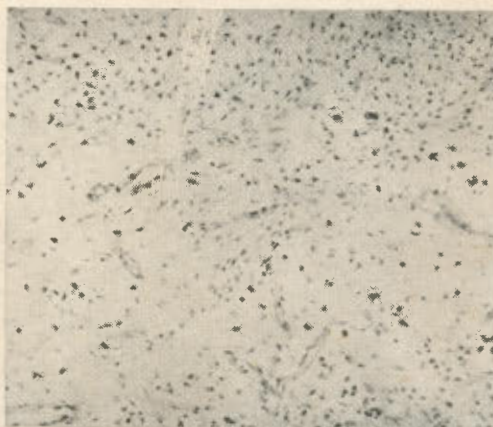


Fig. 2

Shows myxomatous appearance in part of the tumour (x 100).

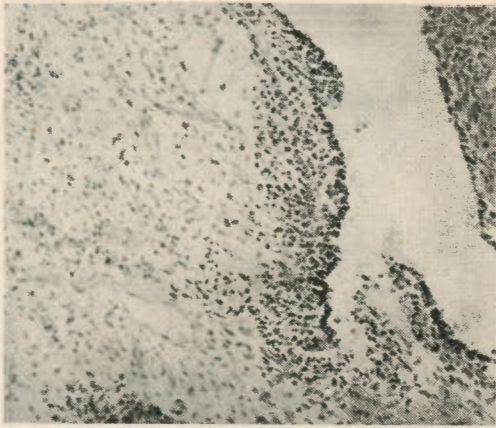


Fig. 3
Shows a cuboidal epithelial lining. Deeper portion shows undifferentiated round cells and myomatous area (x 100).

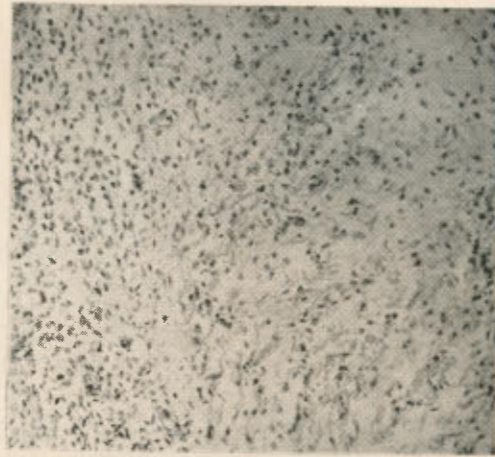


Fig. 4
Shows undifferentiated round cells on left side, eosinophilic strap cells on right side of photograph (x 100).

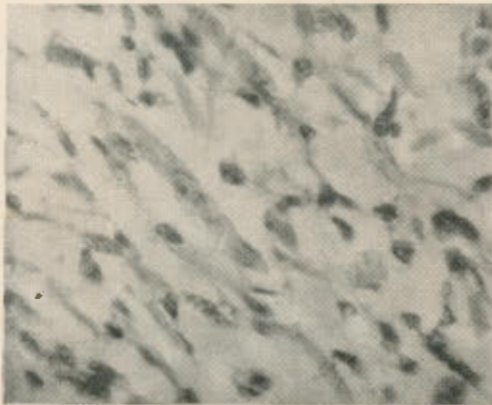


Fig. 5
Shows eosinophilic strap cells (x 400).

Inguinal Ectopia—Pinto et al. pp. 372-374



Fig. 1
Rudimentary uterus with tube and ovary from the inguinal canals either side

Tumors of the ovary 1-2

TUMORS OF GERM CELL ORIGIN

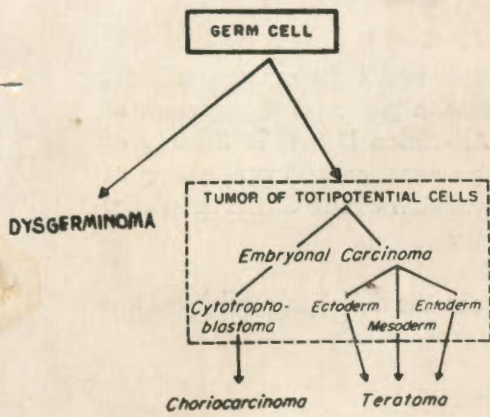


Figure published in *Journal of Obstetrics and Gynaecology*, Vol. 10, No. 1, 1931, p. 10.

Fig. 1
Dixon and Moore's classification of germ cell tumours.

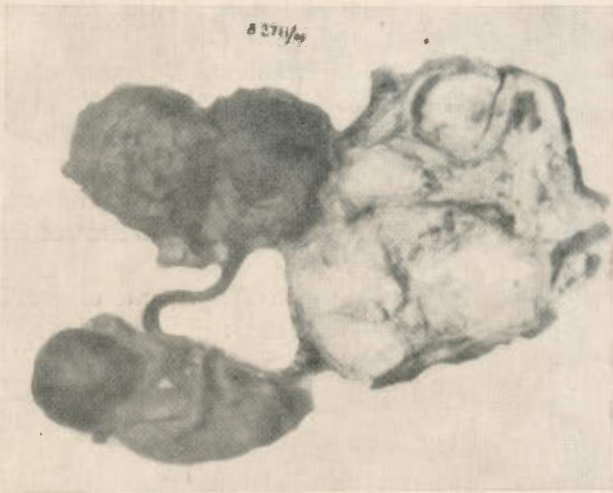


Fig. 2
Photograph of dysgerminoma with pregnancy.

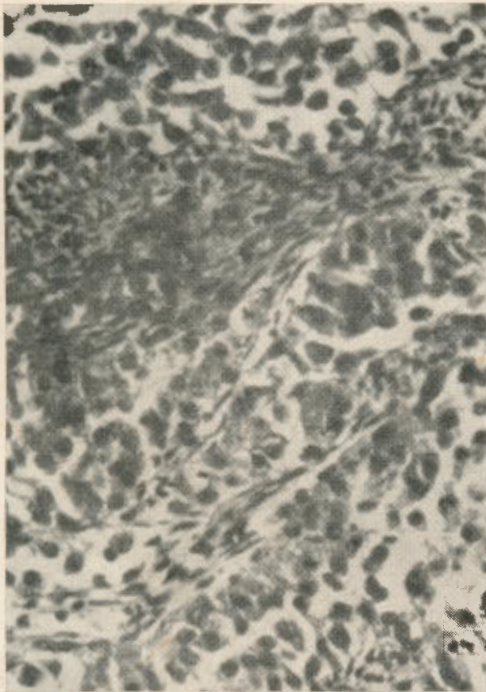


Fig. 3
Microphotograph showing cord of dysgermination.

**THE FEDERATION OF OBSTETRIC AND GYNAECOLOGICAL
SOCIETIES OF INDIA**

**VII INTERNATIONAL CONGRESS OF OBSTETRICS AND
GYNAECOLOGY**

The VII International Congress of Obstetrics and Gynaecology will be held in Moscow, August 12-18, 1973, at the Kremlin palace of Congresses at the Moscow University on Lenin Hills. The All-Union Scientific Society of Obstetrics and Gynaecology will participate in preparation and conducting of the Congress. Professor L. S. Persianinov, Academician of the USSR Academy of Medical Sciences is the President of the Congress.

In the Scientific Programme of the Congress the following subjects are approved for discussion:

- (i) Uterine contractility, normal and abnormal.
- (ii) Biochemistry of the amniotic fluid, the fetus and Newborn.
- (iii) The influence of Hormones on the development and growth of tumours in the female.
- (iv) Gynaecological Problems in Adolescence.
- (v) Recent progress in Obstetrics and Gynaecology.

These problems will be discussed at the plenary and section sessions and in the discussion groups.

The working language at the congress will be: Russian, English, French and German. During plenary sessions a simultaneous translation into Russian, English, French and German will be available. At symposia and section sessions a simultaneous translation into Russian and English will be provided.

Please remember the last date of submission of application forms is 31st December 1972. Federation is sending a copy of first announcement of the above congress to its member bodies along with form which is to be filled by the participant. Please contact the Honorary Secretary of your Society for the same.

If you desire to have further detailed information regarding this congress please contact the General Secretary Federation of Obstetrics and Gynaecological Societies of India 31/c Dr. N. A. Purandare Marg, Purandare Griha, Bombay-7. All the inquiries will be promptly attended to.

C. L. JHAVERI
VILAS M. MEHTA
Hon. Secretaries

28-10-1970.