

**DIAGNOSTIC VALUE OF HYSTEOSALPINGOGRAPHIC STUDY
OF BENIGN (NON-INFLAMMATORY) LESIONS OF
GENITAL TRACT**

by

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Introduction and Review of Literature

Hysterosalpingography has been used in the preoperative diagnosis of benign lesions of genital tract as ovarian, uterine or cervical tumours, endometriosis and ectopic pregnancy. Many gynaecologists are opposed to the use of hysterosalpingography in cases of suspected malignancy because of theoretical risk of spread of the malignant cells by the contrast medium and the possibility of venous or lymphatic intravasation. The normal ovary is penetrable by X-rays and therefore, not visible on a pelvic radiogram, but these may be diagnosed by hysterosalpingography in an indirect way by the displacements of uterus and from the deviation and torsion of the tubes which is moulded and compressed by their surface. Sometimes, especially with water soluble dye, the opaque media forms a thin 'film' which surrounds surface of ovarian tumour or cyst (Robins and

Shapira 1931; and Dalsaec and Garcia-Calderson, 1959).

Cullen (1908), Sweeny (1958), Kohane and Schwarz (1961), Barnett (1970), Musset, *et al* (1972), and Slezaki and Tillinger (1973), have also described various hystero-graphic changes in cases of myoma, irregular—uterine bleedings, sarcoma of endometrium and endometriosis and found hystero-graphy as a very useful investigation in diagnosis of these conditions.

Material and Method

The present study was undertaken in the department of Obst. and Gynaecology, G.S.V.M. Medical College, Kanpur. The subjects for the present study were selected from the out patient and inpatient department of U.I.S.E. Hospital of G.S.V.M. Medical College Kanpur.

Hysterosalpingography was carried out by using Diagonal viscous 40% W/v or lipodal ultrafluid 38% W/v under radiographic exposure of 80 KV, 50 MAS with Buckey and cassette and per speed screen on a plate of size 10" x 8".

Observations

In the present series only benign (non-inflammatory) lesions of the genital tract

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were studied due to possible risk of spread of infection and dissemination of malignant cells by the contrast medium. These included 10 cases of ovarian tumours, 32 of uterine lesions (Fibromyoma and adenomyosis), 2 of cervical fibromyoma and 4 cases of ectopic pregnancy.

Age: Table I shows the age distribution of the cases of benign lesions of genital tract.

Parity: The Parity is shown in Table II.

Menstrual Pattern: A number of menstrual disorders were observed in cases of benign tumours studied in the present series. These are shown in Table III.

Comments

Ovarian Tumours: In the 10 cases of ovarian tumours, hysterosalpingography

TABLE I
Age Distribution

Age group in years	Ovarian tumours		Uterine tumours		Cervical tumours		Endometriosis		Ectopic pregnancy	
	No.	%	No.	%	No.	%	No.	%	No.	%
21-25	1	10	5	19.2	—	—	—	—	—	—
26-30	3	30	9	34.6	1	50	1	16.6	3	75
31-35	2	20	8	30.7	—	—	3	50.0	1	25
36-40	4	40	2	8.6	1	50	2	33.3	—	—
Above 40	—	—	2	8.6	—	—	—	—	—	—

TABLE II
Parity

Age group in years	Ovarian tumours		Uterine tumours		Cervical tumours		Endometriosis		Ectopic pregnancy	
	No.	%	No.	%	No.	%	No.	%	No.	%
P0	2	20	8	30.76	—	—	4	66.66	2	50
P1	—	—	11	42.30	—	—	—	—	—	—
P2	7	70	3	11.53	—	—	2	33.33	1	25
P3	—	—	—	—	1	50	—	—	1	25
P4	1	10	2	7.69	1	50	—	—	—	—
P5	—	—	—	—	—	—	—	—	—	—
P5 & above	—	—	2	7.69	—	—	—	—	—	—

TABLE III
Menstrual Pattern

Age group in years	Ovarian tumours		Uterine tumours		Cervical tumours		Endometriosis	
	No.	%	No.	%	No.	%	No.	%
Normal cycles	5	50	1	3.84	1	50	1	16.6
Dysmenorrhoea	3	30	3	11.53	1	50	3	50.0
Menorrhagia	1	10	12	46.15	—	—	5	83.33
Polymenorrhoea	1	10	—	—	—	—	—	—
Metrorrhagia	—	—	6	23.07	—	—	—	—
Meno-metrorrhagia	—	—	4	15.38	—	—	—	—

revealed deviation of uterus in 8 tortuous and stretched out tubes over the surface of tumour in 3 and smearing of dye over the mass after peritoneal spill in 1 (Table IV). Cook and Butt (1955) and Vogt (1954) also observed stretching of the tubes in cases of ovarian cysts. Mukerjee *et al* (1972) also found that fallopian tubes were stretched out over the upper borders of the cyst in 80% of their cases of ovarian cysts.

Uterine Tumours (Fibromyoma)

The commonest hysterosalpingographic

abnormality was of deformed enlarged and elongated uterine cavity with projection from its walls in 46.15% of cases. Other abnormal findings included well defined defect in 23.07%, multiple filling defects in 11.53%, sac like deformed enlarged uterine cavity with flattening of the fundus in 11.53% and moon shaped uterine cavity in 7.62% of cases. In addition 96.15% cases showed abnormal tubal findings on hysterosalpingography in cases of uterine fibromyoma (Table V). Keripietila (1964) in a hysterosal-

TABLE IV
Hysterosalpingographic Findings in Cases of Ovarian Tumours

No. of cases	%	Side of tumour	Deviation of the uterus	Uterine findings	Tubal findings
1	10	Right	No deviation	Normal	Tortuous and displaced downwards on the side of tumour.
2	20	Right	Deviated to left	Irregular cavity	Hazy picture with slight displacement of tubes.
3	30	Right	To left	Normal	Tortuous and displaced tubes. Left as well as right tube stretched over the surface of the right ovarian tumour with smearing of the dye. (Fig. 1).
1	10	Left	To left	Normal	Tortuous U shaped tubes on the side of the tumour.
1	10	Bilateral	Nil	Distorted cavity	Tubes overshadowed by multiple fluid levels.
1	10	Left	To extreme right	Distorted cavity	Thick tortuous tubes. Smearing of the dye over the tumour.
1	10	Left	To right	Normal	Tortuous tube with smearing of dye.

TABLE V
Hysterosalpingographic Findings in Cases of Uterine Tumours

Uterine findings	No. of cases	Percentage
1. Triangular shaped uterine cavity with smooth rounded well defined small filling defect	6	23.07
2. Multiple rounded small filling defects	3	11.53
3. Deformed, enlarged and elongated uterine cavity with projections from its walls. (Fig. 2).	12	46.15
4. Sac like deformed and enlarged uterine cavity with flattening of fundus	3	11.53
5. Increased distance between the two cornu giving rise to an appearance of moon shaped uterine cavity	2	7.63

pingographic study found definite enlargement of uterine cavity in 21.4%, deformed uterine cavity in 80.8%, smooth mucosal contour in 71.7%, local mucosal irregularity in 5.9% and general mucosal irregularity in 22.9% of their cases. Our findings match with those of Mukerjee *et al* (1972) who observed enlarged and deformed uterine cavity with filling defect in 60% without filling defect in 33.3% and findings suggestive of cervical fibromyoma in 6.6% of their cases.

Endometriosis

Hysterosalpingography was carried out in 6 cases of uterine endometriosis in the present series. The commonest uterine abnormality observed in these cases was enlarged uterine cavity with lacunary projection in the walls (Table VI).

Robin and Shapira (1931) and David (1953) stated that uterography which shows a penetrating lesion characterised by a sinus like tract with slight enlarge-

ment of uterine cavity with or without fibroids is pathognomic of adenomyosis. Barnett (1970) has described hystero-graphic appearance of uterine endometriosis as diverticulosis. Mukherjee *et al* (1972) also found hystero-graphy to be helpful in detecting 2 cases of adenomyosis out of 5 cases of clinically diagnosed dysfunctional uterine bleeding.

Ectopic Pregnancy

Preoperative hysterosalpingography was done in 4 cases who clinically presented as tubo-ovarian masses and in whom subsequent laparotomy confirmed the diagnosis of ectopic pregnancy. The common findings observed in these cases were of saccular dilatation of tube with a strange club like image in the middle part, smearing of dye over smooth rounded mass and tubal isthemic block with extremely deviated uterus on the opposite side (Table VII). A number of

TABLE VI
Hystero-graphic Findings in Cases of Endometriosis

Uterine findings	No. of cases	Percentage
Enlarged uterine cavity with localized lacunary projection. (Fig. 3).	1	16.66
Enlarged uterine cavity with generalized lacunary projection and distortion of cavity. (Fig. 4).	2	33.33
Normal uterine cavity with single lacunary projection	2	33.33
Distorted uterine cavity with filling defect simulating intra-uterine synechiae	1	16.66

TABLE VII
Hysterosalpingographic Findings in Ectopic Pregnancy

Case No.	Uterine findings	Tubal findings
1.	Triangular uterine cavity deviated to the side of tubo-ovarian mass	Saccular dilatation of the right tube with a strange club like image in the dilated part. Left tube blocked at cornual end. (Vide Plate No. 5).
2.	Uterus deviated to the opposite side of tubo-ovarian mass	Dilatation of the left tube upto the isthmic portion and thereafter spreading of the dye over a smooth rounded mass.
3.	Tubular uterus deviated to opposite side of tubo-ovarian mass	No visualisation of tubes on either side. A soft tissue shadow seen on left side.

workers have also established the value of hysterosalpingography in the diagnosis of ectopic pregnancy. Notable amongst them are Nielsen (1947), Dalsaec and Calderon (1959), Yamamanto (1958) and Chien—Tien and Wen—Ruchis (1962).

Conclusions

Hysterosalpingography was carried out in 48 cases of benign tumours of genital tract included, 10 cases of ovarian, 26 cases of uterine, 6 cases of endometriosis, 4 cases of ectopic pregnancy and 2 cases of cervical tumours and it was found to be a valuable investigation for the pre-operative diagnosis of these cases, especially in those cases where correct diagnosis could not be made by pelvic examination alone.

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See Figs. on Art Paper IV-V

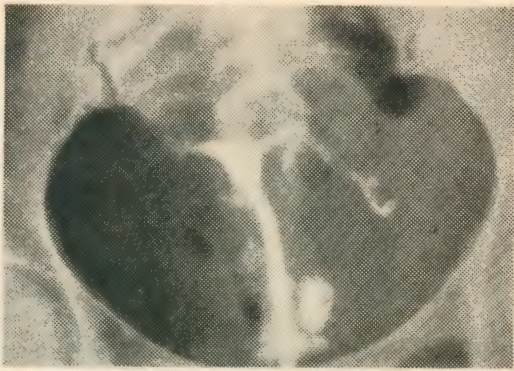


Fig. 1
Hystero-graph showing hypoplastic uterine cavity (a case with 3 abortions) (Spontaneous).

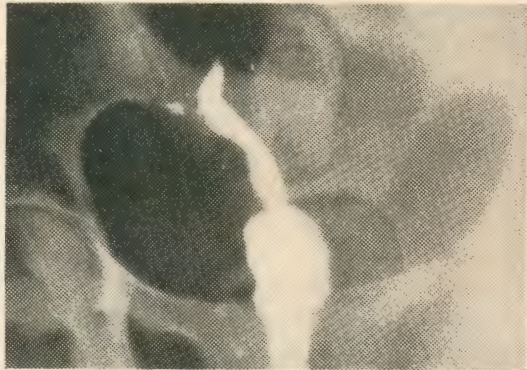


Fig. 2
Hystero-graph showing hypoplastic bicornuate uterine cavity with funnelling of isthmus (a case of 2 repeated abortions).



Fig. 3
Hystero-graph showing intrauterine synechiae (a case of 2 repeated abortions after

Shake Test' Prognosticator of Foetal Pulmonary Maturity—Reddy et al. pp. 67-73

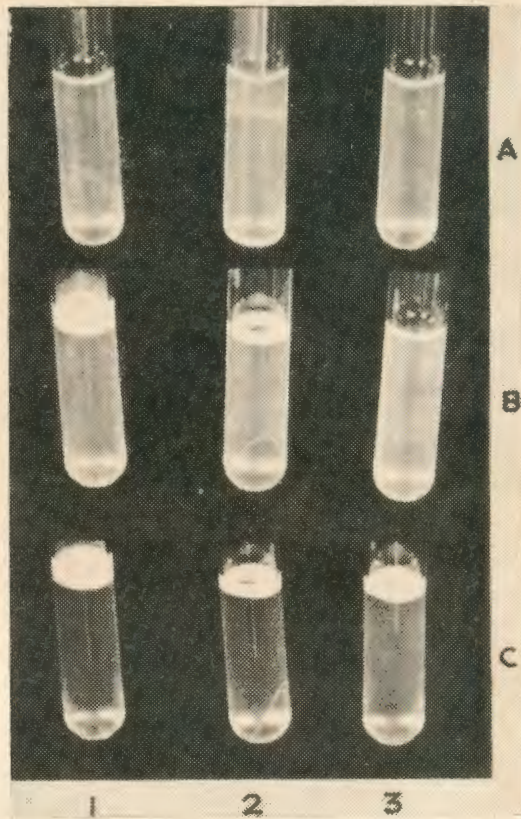


Fig. 1

(A) Negative (B) Intermediate and (C) Positive Shake Tests.

The dilution of liquor with saline in tube 1 is 1:1; tube 2 is 1:1.3 and tube 3 is 1:2. A complete circlet of stable bubbles visible around meniscus 15 mins after shaking, was recorded as positive. The tube with the highest dilution of liquor giving such a result was noted. Samples were classified as negative if the tube with 1:1 dilution is negative (A). Intermediate if the tube with dilution 1:1.3 is positive (B) and positive if the tube with 1:2 dilution is positive (C).



Fig. 1
Shows oedema of the membranes.



Fig. 2
Shows scattered areas of haemorrhage underneath the membranes.

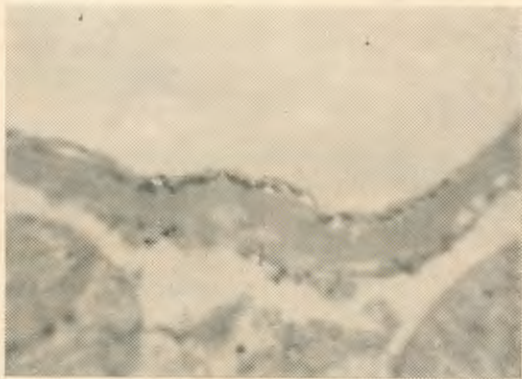


Fig. 3
Amniotic epithelium showing cytoplasmic vacuolation and nuclear pyknosis.

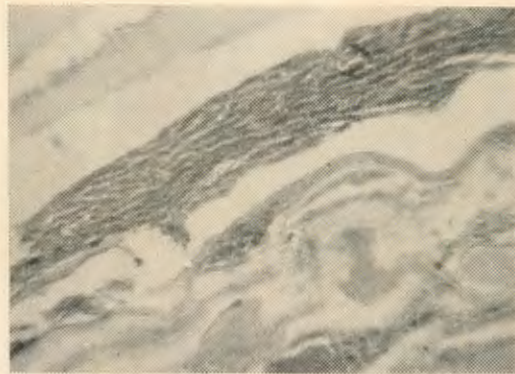


Fig. 4
Shows subchorionic zone of red thrombosis.

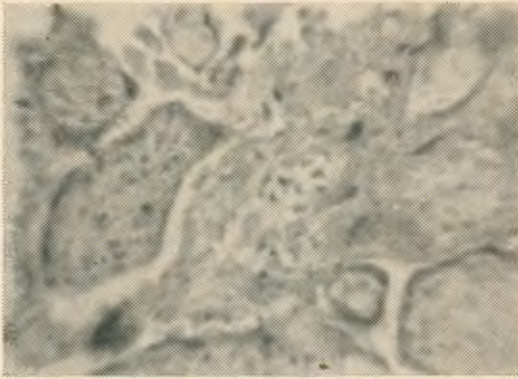


Fig. 5
Cytoplasmic vacuolation and nuclear pyknosis in the syncytiotrophoblastic cell layer.

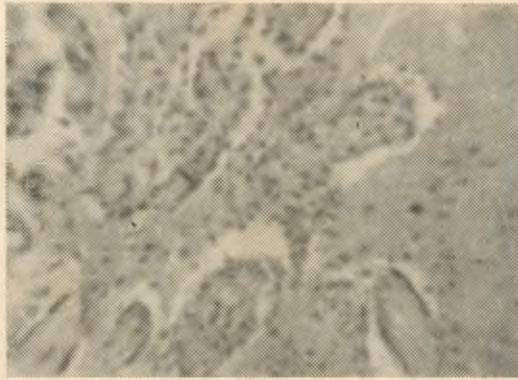


Fig. 6
Shows leucocytic exudate.



Fig. 7
Shows Focal coagulative degeneration of chorionic villi with deposition of fibrin in the intervillous space.

Parasitic United Monster Associated with Triplet Pregnancy—Ganguly and Banerjee pp. 153-154



Fig. 1
Parasitic united monster.

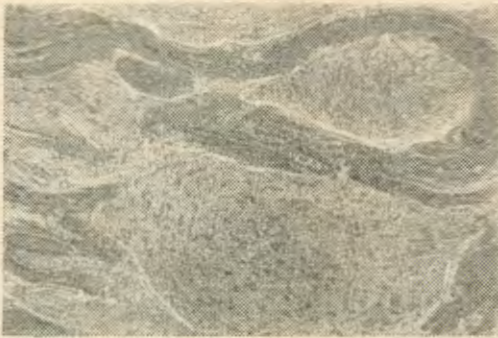


Fig. 1

Low power microphotograph representing characteristic make up of the stromal cell sarcomas comprising of well defined islands of stromal cell growth is seen in the upper left portion. (H & E Stain x 60).

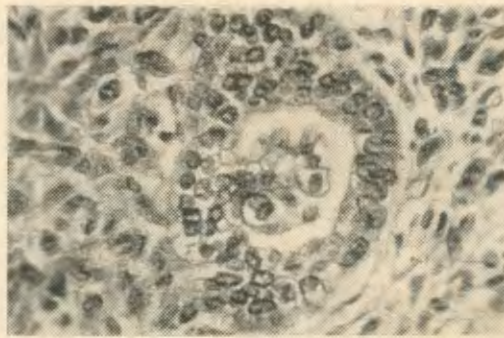


Fig. 2

High power microphotograph representing variable admixture of carcinomatous and spindle-celled sarcomatous components.

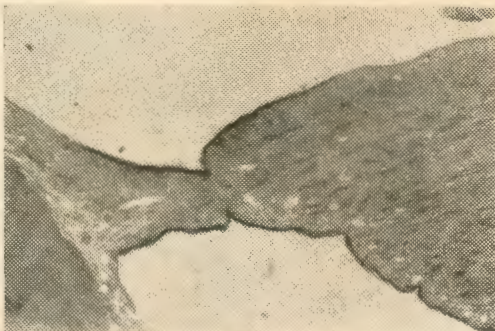


Fig. 3

Low power microphotograph showing multiple polypoidal excrescences of proliferating stromal cells without accompanying glands.

Diagnostic Value of Hysterosalpingographic Study of Benign Lesions—Upreti et al. pp. 92-96



Fig. 1

Showing normal uterine cavity deviated to right with stretched out tube on left side on the surface of left ovarian tumour. (Findings confirmed during operation).



Fig. 2

Showing a deformed, enlarged and elongated uterine cavity with a filling defect of left wall (A case of submucous fibromyoma subjected to myomectomy).



Fig. 3

Showing lacunary appearance of the fundus uteri towards right cornua suggestive of focal endometriosis (A case with persistent menorrhagia, total hysterectomy done, diagnosis confirmed by histopathology).



Fig. 4

Showing irregularly enlarged uterine cavity with lacunary projection, suggestive of generalised endometriosis.



Fig. 5

Showing uterine cavity deviated to right with saccular dilatation and a strange clube like image in the middle part of right tube (Diagnosis of ectopic pregnancy confirmed on laparotomy)

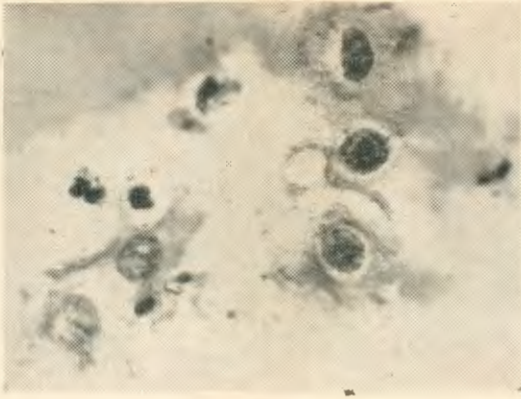


Fig. 1
Perinuclear Halo.

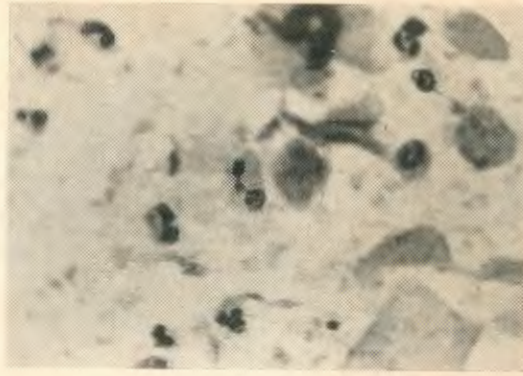


Fig. 2
Trichomonads in Vaginal Smear.

Chorioepithelioma—Modi et al. pp. 172-173

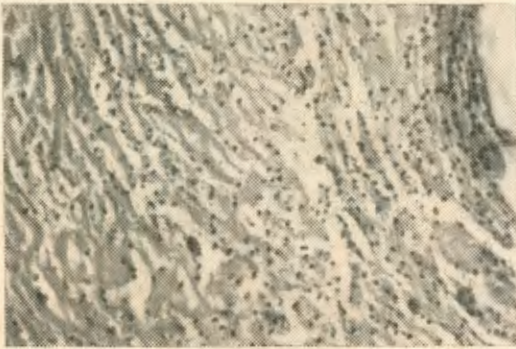


Fig. 1
Chorioepithelioma — Low power.

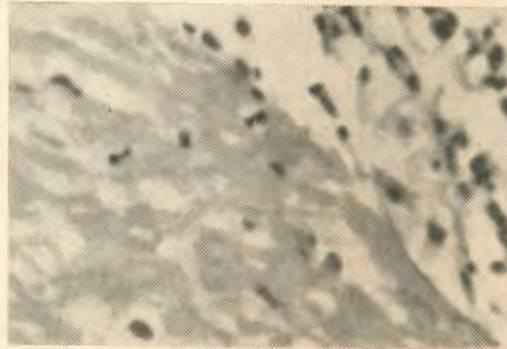


Fig. 2
Chorioepithelioma — High power.



Fig. 1

Leukoplakia vulva. Diffuse white lesion involving labium major and labium minor. The skin thick, rough and dry. There are scratch marks over the lesion.



Fig. 2

Histology shown hyperkeratosis with pyramid like elevation, hypertrophy of the rete pegs, hyalinisation of dermis and sub-epithelial round cell infiltration.



Fig. 3

Ulcer of the vulva with patchy white lesion at the margin. The discoloured skin is thin and smooth U—Ulcer.

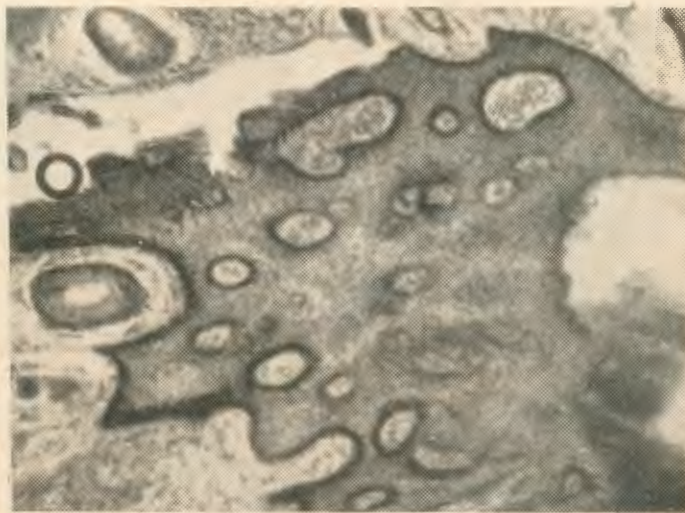


Fig. 4

Histology shows marked cellular atypicalism at the base and at the margins of the ulcer extending upto the adjacent region of the associated white lesion of the vulva.

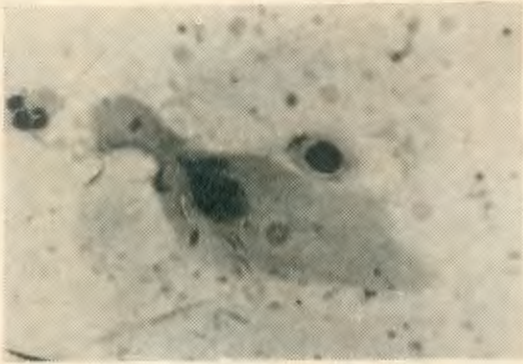


Fig. 1
Cellular gigantism following irradiation.

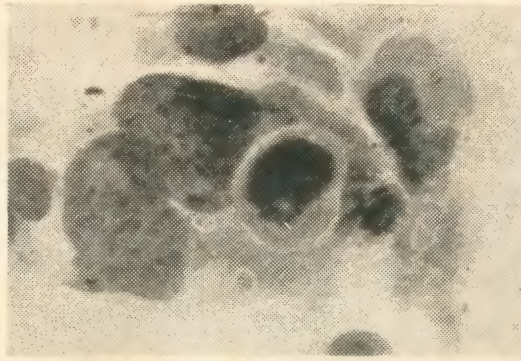


Fig. 2
Cannibalism among irradiated malignant cells.

*Extreme Hypertension of the Head in Breech
Presentation—Roy and Chattarjee pp. 155-157*



Fig. 3
Multinucleated Bizarre Histiocyt in a Post irradiation smear.

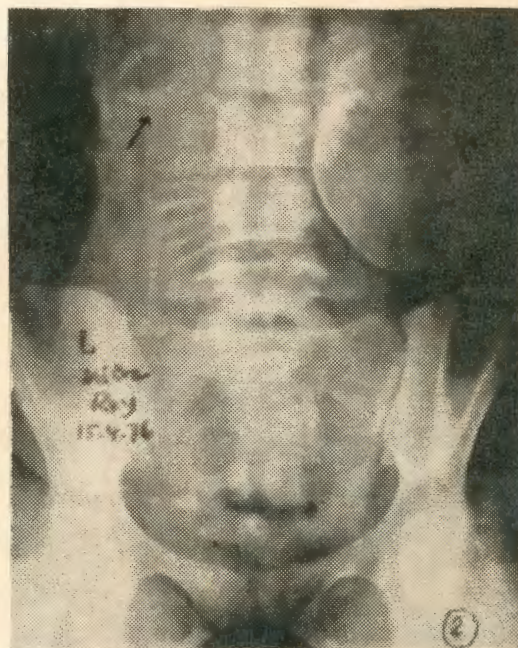


Fig. 1
X-ray showing the foetus with breech presentation and extreme hyperextension of the head. Arrow mark indicates the only visible upper limb-bud.



Fig. 2

The dead achondroplastic foetus with a big head and extremely small and knobby extremities.



Fig. 3

X-ray of the dead foetus showing the large bulging cranial vault containing gas-shadow and extremely short and broad long-bones with marked epiphyseal deformity.

Chorioadenoma Destruens—Shivanagi and Deshpande pp. 168-170



Fig. 1

Cut section of uterus showing infiltration of chorionic villi into myometrium.

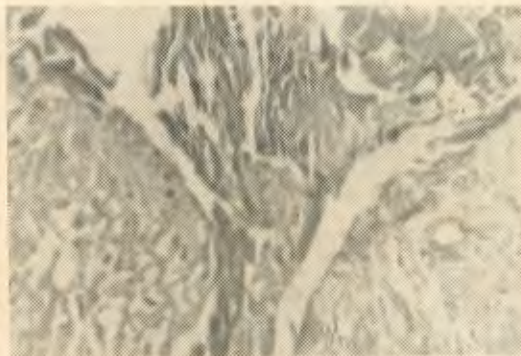


Fig. 2

High Power View H & E x 180
Section shows myometrium & chorionic villi syncytium and cytotrophoblast.



Fig. 1
Complete prolapse of urethra with a catheter.



Fig. 2
Shows a linear cut with cautery.



Fig. 3
End result after the operation.

*Vaginal Sinus from Pelvic Osteomyelitis—
Yadav et al. pp. 178-179*

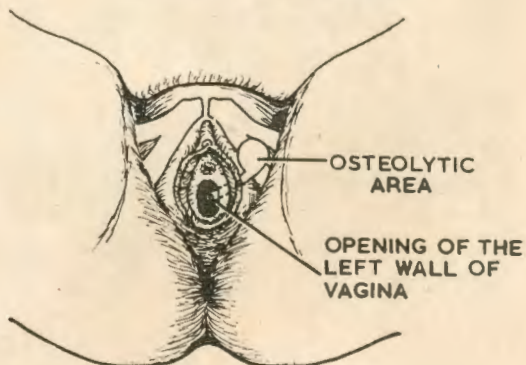


Fig. 1
Artist's drawing showing the osteovaginal tract.

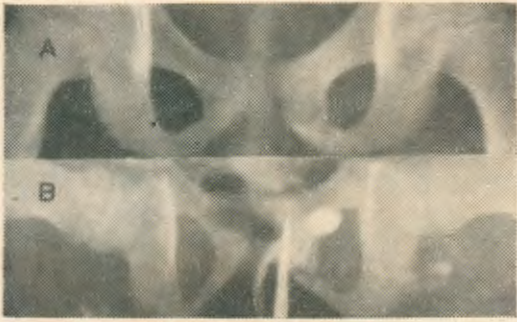


Fig. 2
The osteolytic lesion in the left public ramus.



Fig. 3
Sinogram showing the osteovaginal communication.

Spontaneous Rupture of a Teratoid Tumour—Marya and Kumar pp. 180-181



Fig. 1
Shows the fallopian tube, ovary and the tumour arising from it. Thick cuff of bladder wall separating the two parts of the tumour and hair growing from the surface of intravasical part of the tumour can be seen.

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

Purandare Griha, 31/C Dr. N. A. Purandare Marg, Bombay 400 007.

The 22nd All India Obstetric and Gynaecological Congress will be held at Indore (M.P.), India on 29th, 30th and 31st December 1978, preceded by Annual General Body Meeting on 28th December 1978. The official subjects for discussion, besides miscellaneous papers, at the congress are:

1. Urological problems in Gynaecology and Obstetrics (excluding urinary fistulae).
2. Postgraduate Medical Education in Obstetrics and Gynaecology.
3. Puerperal Complications within three weeks of delivery
4. Miscellaneous papers.

Besides these there will be (a) Rallis Oration (Federation Foundation) by eminent speaker. (b) Some lectures by guest speakers, & (c) Panel discussion.

The Synopsis and full text of scientific papers to be presented at the said congress should be sent in triplicate to the Hon. General Secretary at the Federation office so as to reach on or before 15-9-1978. The person presenting the Scientific Paper must be a member belonging to any Member body affiliated to our Federation and should be a registered delegate at the time of Congress. They must specify especially the name of the Obstetric and Gynaecological Society of which the person is a member, while sending the synopsis and the full text of paper. Please also mention the name of the person who will be presenting the paper. Each registered delegate will be allowed to present only one paper. The participants in the Scientific programme should register as delegate on or before 15-11-1978, to enable them to present their respective papers.

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