Session No. 13—26th April 1956.
From Unit "A," Kandang Kerbau Hospital for Women.
Moderator: PROFESSOR B. H. SHEARES.

(a) Case of Abruptio Placentae

Case Report:

Y.Y.L. No. 7380/56 — Age 37 years. Chinese (Hokkien) Admitted on 21st April 1956 with the following history:—

Complaints:

Madam Y.Y.L. was admitted into Labour Ward at 12.45 a.m. on 21st April 1956 because of a bout of painless vaginal bleeding at home. She woke up at midnight and found her pants wet with blood.

L.M.P.—21st July 1955.
E.D.D.—28th April 1956.

Attended A.N.O.P.D. six times (AN. 2358/56) at the first visit on 28th February 1956, she was found to have B.P. 160/110 mm. Sg., oedema of shins but no albuminuria. She was given sedatives and advised for rest. The B.P. Responded with outpatient treatment and on 17.4.56 was 130/88 mm. Hg., oedema legs improved and body weight was unchanged at every visit.

Obstetric History:

Only one female child 8 years old. Delivery was normal and birth weight 6½ lbs. Health good during last pregnancy, no oedema of legs. No history of abortion.

Health good during present pregnancy. No headache, giddiness or visual disturbances.

Previous Illnesses: Appendicectomy at General Hospital—4 years ago.

Examination:

General: B.P. 200/140 mm. Hg. Pulse 100/min.
Temperature: 98°F.
No oedema. General condition fairly good.
Slightly anaemic.
No albuminuria.

Obstetric: Uterus tense, hard and size of term. No evidence of uterine contractions seen. Fundal height 4." Abdomen girth 38."

Foetal parts not felt generally. Only vertex palpable at lower abdomen and this could be pushed down into the pelvis. Foetal heart heard faintly below to right of umbilicus.

Diagnosis: Accidental Haemorrhage.

Vaginal Examination was done to ascertain the state of the cervix and if necessary rupture the membranes artificially. The cervix was not effaced, os was parous and admits a finger. Membranes were intact. No placenta felt as high as finger could reach. Vertex floating.

Treatment:

Caesaren Section was decided upon because of the following reasons:—

1. Precious child. Only one delivery 8 years ago.
2. Maternal hypertension with accidental haemorrhage and conditions not amenable to rapid spontaneous vaginal delivery.

L.S.C.S. done under general anaesthesia with cyclopropane and oxygen induction, and gas oxygen and ether maintenance in the usual manner. Live female infant weighing 5 lbs. 5 ozs. and 18" length was delivered per abdomen.

At laparotomy it was found that there was a little serosaguinous fluid in the peritoneal cavity. Some mild haemorrhages in the wall of the uterus not extending to either Broad ligaments. Both tubes and right ovary normal, left ovary has numerous small haemorrhagic spots.

Placenta between 1/4 to 1/3 of maternal surface covered by a large-retroplacental blood clot.

Post-operative Phase: Uneventful.
Mother: B.P. 120/80 mm. Hg. Able to move about and feed baby.
Infant: Alive on breast feeding.

Discussion:

(DR. T. WILSON RODDIE)

Three complications render accidental haemorrhage one of the most serious complications in present day obstetrics.

1. Progressive and at times intractable haemorrage resulting from a deficiency in the clotting power of the blood—many of the hitherto imperfectly explained features of accidental haemorrhages are the natural results of this clotting defect.
2. Anuric renal failure.
3. Foetal Asphyxia.

Foetal loss in all cases about 50%.

The theory as regards aetiology is a deficiency in clotting power: It is suggested that the bleeding is due to a fall in blood fibrinogen. When the blood loses its clotting power after premature placental separation more and more blood is poured out behind the detached placenta to overstretch the uterus.

Shock is therefore produced from simple blood loss and uterine distension. The non-clotting blood can infiltrate between the uterine muscle fibres leading to more shock.

This clotting defect is found in the majority if not all cases of accidental haemorrhage. Once it develops, bleeding must continue until the clotting power of the blood has been restored to normal. Serious loss of blood from the circulation is a constant feature of these cases.

Malnutrition and anaemia are important associated conditions.

Prof. B. H. SHEARES:

(R. Torpin: J. of Obst. & Gyn. Brit. Temp. 62: 385, 1955).

(R. Torpin: Obs. & Gyn: Vol 6, No. 3, Sept. 1955.)

Best method is to study each placenta immediately after delivery. Placentae wrapped in a damp towel will keep fresh for study in a refrigerator for a week.

8% placentae bilobate because egg implanted in crease between anterior and posterior wall of uterine cavity.

91% placentae single dise—implanted on anterior or posterior wall, and cover approximately ¼ of surface of the amniotic sac.

Few—cornual—fundal implantations.
60% normal edge.
36% marginate infarction edge (placenta marginate) = abortion not uncommon or premature separation at or near term.
1% circumvallate edge = deepest implantation—80% abort.

Succenturiate placenta (usual monkey implantation) = due to superficial implantation of ovum so that the usual decidua capsularis is lacking and the abembryonic pole of ovum erodes and attaches to the opposite wall.

In abortion sacs the area of the placenta in relation to the area of the sac is much greater than ¼. If the discoid placenta cover ¼ of the sac surface, it and the area of the uterine wall to which it is attached increase in size simultaneously without marginal stress or strain and a normal edged placenta results. If the discoid placenta originally covers more than ¼ and up to ½ of the ovular sac, the excess over ¼, unable to spread as fast as the uterine wall, is gradually separated, becomes atrophied and is laid down around the placental margin in a white marginate border.

If the original placenta covers more than ½ of the early ovular sac, then it is necessary for a ring to form, and thus gives rise to placenta circumvallata (1 to 3%)= deepest implantation.

In very instances the whole sac is covered by placenta in which case abortion is inevitable at any time up to 3½ to 4½ months = placenta membranacea (much less than 1%) = deepest implantation, 100% abort.

All the various types of discoid placentae are readily explained by a variation in depth of implantation of the fertilised ovum into the decidua.

1. Most superficial = double discoid or very small single (if the abembryonic pole fails to attach to the opposite wall). This small placenta will not supply enough nourishment to the foetus which may die and abort, or go to term with a poorly developed, underweight foetus.
2. Deepest = circumvallate and membrancea.

In premature placental separation, haemorrhage is extra-placental and marginate or circumvallate in origin in 80% (marginal sinus rupture) even in some toxaemic cases. However, in the majority of toxaemic cases separation occurs inside the placental tissue.

The placenta is the root structure of the foetus. In it is printed a fantastic story for anyone with eyes to read. With observation and training, mostly self-training, a student may be reading aright the signs in the individual placenta know much about the life history of the foetus in question and, indeed, of its mother and her previous and subsequent pregnancies.

William Hunter (1794) likened the rolled-edge placenta circumvallata to a soup plate.

Koelliker (1879) deescribed the placenta marginata.

Marginata is similar to circumvallata, but instead of having a well-developed ring, the necrotic chorionic villi form a white border along the periphery of the placenta. This may include the whole-circumference or a portion of the circumference and varies in width up to ½" or more. Usually quite thin, about 1mm. in depth. Reflexed layers of decidua lie beneath the superficial necrotic villi (Bayer's tube-neck concept.)

DEGREES OF IMPLANTATION.

1. Very superficial.=bidiscoid placenta (succenturiate) = monkey.
2. Deeper, normal implantation. At 13 days the human ovum has 80 chorionic buds evenly distributed over its surface. ¼, or 20 of these, survive to produce the normal discoid placenta — occurs in 60% of cases.
3. Implantation deep enough to obtain more extensive early placenta up to ½ the sac area. The excess over the normal is separated gradually from the uterine wall by decidual rupture and the excess margin, with a fine layer of decidua thus detached from the maternal blood supply, atrophies and is laid down around the circumference of the placenta in white border, forming a placenta marginata — occurs in 36% of cases.
4. Implantations deeper still — more than ½ and less than ¾ of sac covered by placenta in the early stages. In this instance the peripheral detachment necessary as the amniotic contents herniates out must form a ring which slowly is pushed back onto the face of the active placenta = placenta circumvallata — occurs in 3-5% of cases.
5. So deep an implantation that all the foetal chorion is placenta, all early chorionic villi obtain good maternal decidual blood supply = placenta membranacea = abortion inevitable at about 3 months — very rare.

(b) Three Cases of Carcinoma Of the Cervix

Case No. 1—356B—An Indian Patient aged 50 years was seen at the Gynaecological Clinic complaing of Post-Menopausal Bleeding. Vaginal Examination showed an unhealthy cervix with a pedunculated polyp. The Uterus and adnexae felt normal. Avulsion of the Polyp, Cervical Biopsy and Diagnostic Curettage were performed. Histolovical examination showed a transitional Cell type epidermoid carcinoma of the Cervix. The clinical Assessment was then a Stage I Carcinoma of the Cervix. Papanicoloau-Trout cytology showed several malignant cells—Class 4. Other investigations including those of the Genito-Urinary tract were normal. A Wertheim's Radical Hystero - Colpectomy was carried out successfully.

Case No. 2—545—A Chinese patient—Para 7 and aged 38 years—complained of Leucorrhoea and irregular vaginal bleeding for about six months. Gynaecological examination showed and a firm cervix with granular erosion. The Uterus and ap-

pendages were normal. A diagnostic D and C and Cervical Biopsy was performed and histological examination showed a Stage I epidermoid Carcinoma of the Basal-cell type. A Wertheim's Radical Hystero-Colpectomy was done without preliminary radium.

Case No. 3—235 B—A Chinese patient aged 34 years—Para 10 and Gravida 11 was admitted into the Labour Ward as a case of Antepartum haemorrhage at about 36 weeks gestation. Examination in the Operating theatre under a general anaesthetic showed no evidence of a Palcenta Praevia. The cervix however was found to be very friable and vascular, bleeding easily to the touch. Biopsy was done and histological examination showed a Stage I spindle cell type of Carcinoma of the Cervix.

Labour commenced the same day and she was delivered normally of a premature infant. Six weeks later, after a preliminary dose of Radium (2420 mgm/hours), a Wertheim's Radical Hystero-Colpectomy was successfully performed.

Discussion:

Dr. J. W. F. Lumsden opened the discussion by reading a short paper on the diagnosis of cervical cancer. He gave a brief outline of the recognised practices. He mentioned the diagnosis of late cases being generally only too obvious clinically and could often be made from the odour which preceded the patient into the consulting room. However biopsy was still necessary to rule out such conditions as narcotic fibromyomata and the like. The chief interest is with the early and hyper-early case. As to the predisposing factors, the following have been suspected as of significance:—

1. Pregnancy and rate of pregnancy.
2. Marriage — specifically early marriage.
3. Prostitution.
4. Cervical Lacerations.
5. Chronic Cervicitis.
6. Diet.
7. Vaginal Discharge.
8. Lack of circumcision.
9. Hormonal Imbalance.
10. Irritant Douches.
11. Racial Factors.

Wynder quotes the following rates from the Tata Memorial Hospital, Bombay—

Hindus - -	Very High
Christians (Indians)	High
Negroes - -	High
Parsees - -	Low
Muslims - -	Low
Jews - - -	Very Low

Ewing goes so far as to state that cancer only arises in tissues altered by chronic irritation and this might be the factor common to these conditions.

Passing on to the clinical diagnosis, Emil Novak in 1949 defined an adequate cancer detection examination of the cervix as follows:

1. A complete gynaecological examination is to be made at 6 monthly intervals or less, the purpose being to detect invasive and preinvasive cancer. He issues a warning, however that a definite diagnosis can only be made after repeated biopsy and meticulous microscopic study. In a case with an apparently normal cervix, he scrapes the entire circumference of the canal at the junction of the squamous and columnar epithelium using a sharp knife or spoon, washes the fragments into saline and stains and examines them after centrifuging.

An adequate curettage of the cervical canal should be done in suspected cases to exclude the relatively rare but malignant endocervical growth.

Ingenious accessory aids have been devised mainly to determine what tissues to take for histological examination.

The glycogen content of epithelium was studied by Ascheim in 1913 and in 1928 Lahm & Schiller described a test for normal epithelium by painting the cervix with Lugol's iodine. Normal epithelium takes on a deep mahogany tinge while carcinoma, erosions, leucoplakia and other abnormal conditions do not stain, thereby indicating regions from which biopsy material is to be taken.

Hans Hanselmann of Hamburg described his colposcope by means of which the cervix may be observed under a 10 or 20 fold magnification.

Greenhill in an editorial note in the 1952 Year Book describes an improved colposcope devised by Antoine of Vienna which gives a 200 fold magnification and allows nuclear and cell characteristics to be observed in situ. Its aim being to replace biopsy and allow observation of a lesion at different times.

The study of vaginal cytology is possibly the greatest recent advance in early diagnosis of cervical carcinoma. This aspect will be considered later by Dr. Seah.

The efforts to make a diagnosis earlier and earlier have led to the study of so-called pre-cancerous lesions such as basal cell hyperplasia and carcinoma in situ. The diagnosis of these conditions is more difficult by the benign hyperactivity and anaplasia which may occur in chronic trichomonas infestation and in some cases in pregnancy in which expert gynaecological pathologists may be unable to decide whether the lesion is benign or malignant. In our third case today there was no doubt about the diagnosis, but many cases have been described in which apparently malignant lesions discovered in pregnancy disappeared after delivery.

Olef Petersen of the Radium Centre, Copenhagen, reports 212 cases of intraepithelial carcinoma, of whom 127 received no treatment but were followed up at regular intervals from 3 to 19 years. Clinical cancer developed 34 cases and half the cases regressed. He recommends a one year follow-up in preference to the immediate institution of radical treatment especially in younger women.

The knowledge of the natural history of carcinoma is still fragmentary and until more is known the place occupied by these border line lesions remains a matter for conjecture.

Finally, on reading through the November 1955 issue of the Contax photographic publication I found a description of a new blood test for cancer in its early stages by Dr. Scheller of Munich. He postulates that lack of oxygen (desoxibiosis) is the cause of tumour growth and that this is accompanied by changes in the erythrocytes which can be demonstrated by a special staining technique. He can therefore in a few minutes divide individuals into two groups, those with a malignant growth somewhere and those without. If a test of the kind proved to be reliable it would be enormous value in screening patients.

DR. C. S. SEAH: Spoke on the cytologic diagnosis of carcinoma of the cervix.

The cytologic diagnosis of cancer is based upon the fact that cells are constantly being shed from epithelial surfaces. This is true of both normal and abnormal epithelium. Unfortunately we have no significant figures of our own yet to demonstrate the value and accuracy of this method so I should like to quote the figures of the Vincent Memorial Hospital on this subject.

For the 9-year period, 1943 through 1951 smears from 18,303 patients were taken and table I shows the type of cancers detected and the degree of accuracy with each type. As can be seen accuracy is higher with squamous carcinoma than with adenocarcinoma. One must remember that these figures were collected from the time the cytologic unit first started in that hospital. Table II compares the false negative and false positive errors in 3 different years. It is evident that the beginning too many cells were considered malignant and a little later the reverse was true. The figures for 1951 show a more even distribution of errors.

It should be emphasized that the vaginal smear is not a substitute for biopsy. It has very specific limitation the chief being—it cannot indicate whether the cancer is invasive or in situ. No patient should be submitted to therapy on the basis of a positive cytological report alone.

Its chief advantage lies in the fact that cells in the smear are representative of the whole cervix and therefore in very early cases where there is no definite area to choose for biopsy the smear may detect cancer where the biopsy may miss it.

The cytological method and biopsy are complementary methods, both with inherent errors, which, fortunately in the majority of instances compensate one another. In 1948 the Vincent Memorial Hospital compared the initial vaginal smear report and initial biopsy report in 183 cases of squamous carcinoma of the

cervix. The initial vaginal smear was positive in 91% of cases, the initial biopsy in 90%. There was no significant difference in the accuracy of the two methods. However, the initial report of either one or the other method was positive in 98.6% of cases. The vaginal smear may discover those cases missed by biopsy usually the early case, and biopsy detects those in which the vaginal smear is inaccurate.

TABLE 1. PRIMARY EPIDERMOID CARCINOMA OF CERVIX, 181 CASES

	First Smear Report	*First Biopsy Report*	*Total*	
			Number	*Per Cent*
Both methods right -	+	+	148	81.7
False negative biopsy -	+	—	16	8.8
False negative smear -	—	+	14	7.7
Both methods wrong -	—	—	3	1.7
			181	100

TABLE 2. ONE HUNDRED EIGHTY ONE EPIDERMOID CANCERS OF THE CERVIX INITIAL STAGE OF THE DISEASE MISSED BY FIRST DIAGNOSTIC TEST.*

	Stage 0	*Stage I*	*Stage II*	*Stage III*	*Stage IV*
17 Negative smears - -	2	6	4	4	1
19 Negative pathologic reports	8	7	3	0	1

*The three cases initially missed by both smear and pathology are included in both the negative smear and pathology groups in this chart.

PROFESSOR SHEARES.

The manner of node involvement in cervical cancer—direct lymphatic extension is more important than lymphatic embolisation, for the majority of cases with node involvement showed major parametrial invasion as well. The high nodes might be involved with ureteral and obturator areas clear; the pattern of node involvement was not sequential in all cases. Invasion of the cervical glands is not evidence of malignancy.

CARCINOMA IN SITU—Entire thickness of the squamous epithelial layer is replaced by atypical cells exactly like those of an invasive cancer, with complete loss of stratification but with no penetration of the basement membrane.

Like beauty, microscopic diagnosis is "in the eyes of the beholder" and to the eye we may add the mind.

Conservative management of carcinoma in situ presupposes a "relentless" programme of observation which is not always possible. Many patients and gynaecologists prefer the shorter cut of hysterectomy, if there is no important contraindication. Found in younger women, aged 35 to 40, compared with 48 years for invasive cervical cancer. No characteristic symptom. Do multiple 4 quadrant biopsy.

Lymphatic drainage from the cervix to the common iliac and periaortic nodes by 2 routes:—

(i) via the paracervical, external iliac and obturator groups.

(ii) via the hypogastric node group.

In clinical Stages I & II—treated by combined radium and surgery fully 45% showed lymph-node involvement at operation 6 to 8 weeks after radium. Even at operation the assessment of lymph-node involvement is subject to an error of 33%.

Most types of cervical cancer respond in some degree to radiation and are radio-sensitive tumour, if not reached by lethal doses of radiation will not be cured, whereas a more resistant but localised lesion may be eradicated. It appears that all different degrees of radiosensitivity must be recognised. There is a small percentage of tumours in which there is no local response to *adequate and well* directed therapy, and persistive biopsy means radio-resistence.

Viable tumour 6 to 8 weeks after treatment suggests failure to respond.

Radical surgery for recurrent or early radioresistant cases.

CRITERIA FOR DETERMINING IRRADIATON EFFECT:

1. The direct lethal effect on the tumour—manifested by necrosis oedema, nuclear degeneration and progressive disappearance of tumour cells.
2. The later connective tissue reaction, tending to produce fibrotic barriers around nests of tumour cells and choke them out.
3. The tendency towards increased keratinisation which decreases further cell division (the "differentiating effect").
4. The activity of the individual cells—favourable response manifests itself in a high proportion of degenerating or differentiating cells; unfavourable response in a high proportion of mitosing or resting cells.

The Strangeways Research group (Glucksmann & Spears) include that differentiated tumours or those with a capacity for further differentiation are radiosensitive.

But Harris (Obs. & Gynae. Survey, 6;629, 1951), Kistner and Hertig (Amer. J. Obst, & Kyn. 61; 1923, 1951) believe that the outcome is determined by the clinical stage rather than the histologic pattern.

In Stage II tumours (disease neither too nearly nor too advanced) macroscopic evaluation of radioresponse may be informative, but Stage III & IV are sufficiently extensive to end fatally irrespective of how radio-sensitive they may be.

Ruth Graham—by study of post-radiation smears is able to tell whether the tumour is radiosensitive.

IRRADIATION TREATMENT OF CANCER OR CERVIX.

Limitations in cases in which gland extension has occurred. However, thus far, surgery has not demonstrated any general superiority over irradiation in a comparable series of cases.

Emphasis is on individualisation.

The logical way of expressing radium dosage is the same way as for X-Ray dosage, that is, in terms of the amount of ionisation it produces. Expressed in terms of roentgen, and for radium gamma roentgen.

Therapy should be expressed in terms of tumour dose. Air dose and skin dose have no meaning.

External radiation is complementary to radium.

The geometric distribution of radium and the time factor must be considered.

ROLE OF SURGERY.

1. Pre-invasive cancer.
2. Resistant cancer, extension to lymph-nodes. Morton found positive nodes in 39.3% of series of carcinomas treated by Wertheim's operation and not irradiated, and only 11.4% in a group receiving pre-operative irradiation.
3. For pregnancy.
